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GILPINS TOMB.

REMARKS
ON
FOREST SCENERY,
AND OTHER
WOODLAND VIEWS.

BY THE LATE
WILLIAM GILPIN, A.M.

EDITED BY
SIR THOMAS DICK LAUDER, BART.

IN TWO VOLUMES.
VOL. I.

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EDITOR'S PREFACE.

In illustrating the present edition of the *Forest Scenery*, it has been our endeavour to interfere as little as possible with the arrangement originally adopted by Mr Gilpin ; we have therefore considered it best to introduce each respective portion of our observations immediately after the original matter to which it refers ; and, to distinguish our remarks the more perfectly, the reader will observe that they are printed in a smaller type than those of Mr Gilpin. Whilst our efforts to avoid disturbing his plan have naturally deprived us, on the one hand, of the power of concentrating our notices as much as we might have otherwise done, they have, on the other hand, given us the greater freedom of miscellaneous writing. By this means we have been enabled to introduce some useful information about forest trees in general, and to describe many of those foreign trees which are individually worthy of attention, either from their own nature, or as being capable of domestication with us in Britain. We have added greatly to Mr Gilpin's list of our remarkable native trees, and we have very largely augmented the history of the British forests, which we considered as a very curious and important part of the subject.

Availing ourselves of the licence which the desultory nature of our task has allowed us, we have not scrupled to introduce whatever we thought might add to the value or the interest of these volumes: it will therefore be found, that they contain many scientific fragments, and also some anecdotes, historical and otherwise, which, it is humbly hoped, will rather tend to lighten than encumber their pages.

Whilst we have retained the most essential of Mr Gilpin's delineations, we have deemed it advisable to change, or to improve, several of them. A number of illustrations have been added from original sketches, by Mr Kidd and Mr Forbes, both of them celebrated artists in their respective departments, whose labours, we trust, will be found to have considerably improved the value of Mr Gilpin's book.

THE GRANGE HOUSE.
Nov. 30, 1833.

ORIGINAL DEDICATION

TO

WILLIAM MITFORD, ESQ.

LIEUT.-COLONEL OF THE SOUTHERN BATTALION OF HAMPSHIRE MILITIA,
AND ONE OF THE VERDURERS OF THE FOREST.

VICAR'S HILL, *March* 4, 1791.

DEAR SIR, — When your friendship fixed me in this pleasing retreat within the precincts of New Forest, I had little intention of wandering farther among its scenes than the bounds of my own parish, or of amusing myself any more with writing on picturesque subjects. But one scene drew me on to another, till at length I had traversed the whole forest. The subject was new to me. I had been much among lakes and mountains, but I had never lived in a forest. I knew little of its scenery. Every thing caught my attention; and as I generally had a memorandum book in my hand, I made minutes of what I observed, throwing my remarks under the two heads of forest scenery in general, and the scenery of particular places. Thus, as small things lead to greater, an evening walk or ride became the foundation of a volume.

In methodizing my remarks, I divided them into three books. In the first, I have considered trees (which are the foundation of all scenery) as single objects; I have endeavoured to investigate their general picturesque qualities, in their several kinds, and in the specific character of each, concluding the book with a short account of some of the most celebrated trees which have been noticed.

The second book considers trees under their various modes of composition, from the clump to the forest. It considers them likewise under the several picturesque circumstances of permanent and accidental beauty, in which we often find them. As the first book concluded with an account of distinguished trees, the second concludes with a short view of forest history, and of the several forests that may be traced in Great Britain.

This leads me directly to New Forest, which is the subject of the third book. It opens with a few observations on this celebrated tract of country. The scenery of it is next described in a series of journeys through its several divisions; and, lastly, the modes and habits of life are remarked of such animals as inhabit and embellish it.

It is now, my dear sir, above ten years since you first saw this work in MS, during which time it has received frequent revisal, and much addition, as new occurrences and observations arose. To many of my friends likewise I owe obligations, who have assisted me with their criticisms, and to you in particular, who are so well acquainted with these scenes, and have furnished me with many judicious remarks and entertaining forest anecdotes. I am desirous, you see, to engage you with me in this work. You are as fond of these amusements as I am; and when we trifle, we like to have the sanction of those we esteem to trifle with us. I hope, however, that while you, shewing the world how Herodotus and Thucydides would have written in English, are throwing the colours of truth on the crimes of antiquity; and while I am humbly endeavouring to point out, as my profession leads, that greater advantages should be attended with more virtuous conduct, the world will not be so cynical as to find fault with our amusements, which, though certainly innocent and rational, I believe neither of us considers as the principal employment of our lives.

How far the following work may be an amusement to others I know not: you will, I am sure, accept it with indulgence, and as a mark of that esteem, affection, and friendship, with which I am, my dear sir,

Your very sincere

And obliged humble servant,

WILLIAM GILPIN.

ON THE

NATURE AND PRINCIPLES OF TASTE.

BEFORE perusing a dissertation like the present, it is very important that the uninformed reader should be made aware of the now universally admitted theory of the nature and principles of taste, as established by Mr Alison's deep and philosophical inquiry into this most interesting subject. It is a work which his highly gifted reviewer* justly characterizes as the best and most pleasing which has yet been produced on the subjects of Taste and Beauty. "Less ornate," says he, "than Burke, and less lively and miscellaneous than Price or Knight, the author has gone deeper into his subject than any of those writers; at the same time that he has been more copious (perhaps too copious) in his examples and illustrations, and more constantly awake (perhaps to an excess here also) to those feelings of enthusiastic delight, which the contemplation of such subjects is apt to excite in the minds best qualified to discuss them. His analysis, therefore, though very patient and comprehensive, has no feature of the chilling metaphysics of the schools;

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* See *Edinburgh Review*, vol. xviii.

and, while the love of his subject has led him into great fulness of detail, and the sensibility of his heart lent a glow of warm colouring to every part of his composition, the reader need be under no fear of encountering either the refinements of ingenious dogmatism, or the ravings of sentimental folly. The book, perhaps, is a little too long, and the style a little too verbose; nor are the argumentative and theoretical parts kept sufficiently distinct from the illustrative and ornamental; but the whole is, in no ordinary degree, both beautiful and instructive."

Approving, as we do, of all that the learned reviewer has here said, we conceive that Mr Alison has completely exhausted and settled a question which had, some years before his publication, excited that voluminous and very amusing controversy, in which Burke, Knight, Price, Repton, Gilpin, and others, took prominent parts; and had not the able and accomplished critic, here quoted, produced that comprehensive and perspicuous digest of the work which his review exhibits, we should have believed that Alison had rendered all farther writing on this subject unnecessary. But in the article we have mentioned, we find the matter concentrated into its essential extract, if we may be permitted so to express ourselves. We shall therefore avail ourselves of this concise treatise, which our limits will compel us yet farther to abridge, and we shall employ it as the best vehicle for conveying to the reader, once for all, what we conceive to be the only just notions regarding the manner in which external objects affect the human mind with ideas of beauty or deformity, sublimity or the reverse, of which we believe it to be very necessary that he should be informed, so that he may carry them along with him in the perusal of the "Forest Scenery," to enable him justly to appreciate the very beautiful discrimination of Mr Gilpin, who, though always so happy in selecting or characterizing the objects which fell under his observation, will yet be found to have assigned to them their respective qualities, without having been himself exactly aware of the true mode in which he was affected by them.

To use the language of the reviewer, " Those who have contended that beauty consists in curve lines—in smoothness, smallness, or fragility—in regularity, or moderate variety—or in any other fixed or physical property,—have, for the most part, neglected altogether to explain how these properties should affect the mind with a sense of sublimity or beauty, or to determine the precise notions they should have excited; while those, on the other hand, who maintain that these emotions consist merely in the perception of utility, or of relation, or of what is ordinary and true, seem themselves to forget that every theory, even as to the nature of our emotions, must be ultimately verified by a careful examination of the objects that are found to produce them, and by a large induction as to the whole accompanying phenomena."

There are, in fact, two distinct objects of inquiry in an examination into the principles of Taste,—the first relating to the nature of the faculty itself, and the other to the nature of its objects; and it is quite essential that these should be discussed together, for " we can never ascertain what is beauty, without having clear notions of the state of mind which it produces, and in its power of producing which its essence consists; and it is utterly impossible to ascertain what is the nature of the effect produced by beauty on the mind, till we can decide what are the common properties that are found in all the objects which produce it."

Mr Alison's opinion is, that the emotions which we experience from the contemplation of sublimity or beauty, are not produced by any physical or intrinsic quality in the objects which we contemplate, but by the recollection or conception of other objects which are associated in our imaginations with those before us, and consequently suggested by their appearance, and which are interesting or affecting, on the common and familiar principle of being the natural objects of love, or of pity, or of fear or veneration, or some other common or lively sensation of the mind. It is therefore the fundamental principle of this the first and most important proposition in his theory, that all objects are beautiful or sublime, which suggest to us some simple emotion of love, pity, terror, or any other social or selfish affection of our nature, and that the beauty or sublimity which we ascribe to them, consists entirely in the power which they have acquired, by association or otherwise, of reminding us of the proper objects of these familiar affections. Mr Alison adds, that the sensation of sublimity or beauty is not fully developed by the mere suggestion of some natural object of interest or affection; but it is distinctly felt only when the imagination is stimulated to conceive a connected train or series of such objects, in unison with that which was first suggested by the particular form, which is called beautiful only for having been the parent of such a train.

If taste were in reality a peculiar sense or faculty, of which beauty is the appropriate object, as light is of the sense of seeing, or sound of hearing, then the nature of beauty must be as familiarly and certainly known to all who possess that sense which relates to it, as the nature of light or sound is to those who can see or hear. It must always be recognized by the same properties and effects. No two persons who possess the sense can ever differ as to its presence or absence on any particular occasion; and, when once admitted to exist in certain forms, colours, or proportions, it must inevitably be discovered wherever the same forms and proportions are presented. But every one is aware that the very opposite of this is the fact. Instead of being recognized like light, or sound, or heat, by all who possess the sense to which it is supposed to be adapted, in every object in which it is plainly perceived by any one such person, it is quite notorious that not only individuals, but whole nations, daily perceive the most exquisite beauty in objects, where other individuals or nations not only cannot perceive the least trace of beauty, but where they are actually affected with dislike and disgust, proceeding from the notions of deformity which are suggested by them; nay, the very same persons who have once rapturously admitted the beauty of certain forms, colours, or proportions, in one set of objects, daily confess that they can discover no beauty in the very same forms and proportions, when they happen to occur in a different set of objects. The forms, colours, and proportions that are respectively beautiful in a tree, a tiger, or a mountain, are not beautiful, to any eye, in a temple or a woman. But the most striking fact of all is, that the very same individual is often affected by the very same object at different times in precisely opposite ways, as he may be influenced by the peculiar state of his own mind at the moment, which inclines it to yield more readily to one train of association or another.

These remarks appear to be conclusive against the supposition of an intrinsic or elementary beauty operating directly on a peculiar sense or faculty of which it is the appropriate object. In other words, there is no such thing as an inherent quality of beauty existing in objects or forms. The absurdity of supposing a separate sense or faculty for the perception of beauty was too glaring to be long acquiesced in; and, accordingly, it seems to have been very early suspected that the peculiar emotion we received from the perception of beauty, might only be a modification of some other more simple and familiar emotion; and that all the beauty of an object might consist in its merely suggesting this emotion. Accordingly, as many objects that are beautiful were observed to be also extremely commodious and useful, and as the ideas of use and convenience are naturally pleasing, it occurred to some ingenious persons, that beauty might perhaps consist altogether in utility; and that the mysterious pleasure which we derived from the sight of it, might be referred to those agreeable recollections, or natural sympathies, which we know to accompany the conception of convenience and comfort; and thus a satisfactory explanation was given of a great part of the beauty of the proportions and forms of buildings, the limbs of animals, and other objects of this description. When applied, however, to things of a different sort, this theory was found utterly to fail. Many things were eminently useful, in which even the authors of the theory could discover no beauty; and many things were indisputably beautiful, which could only be connected with utility by the most revolting and ludicrous straining of the imagination. Ploughs, and dunghills, and bank bills, were very useful; but no one could be persuaded to think them beautiful: and the people were in raptures with the beauty of rosebuds, and statues, and idle young women, that were allowed to be of no use whatever. It was evidently a great mistake, therefore, to suppose that our sense of beauty was nothing more than a perception of utility.

Other theories, partially true, but equally fantastical and fallacious when universally applied, succeeded and failed successively,—the error of the theorists lying, not in the circumstance of their stating these as sources of beauty, but in that of their holding that there are no other sources, and announcing as universal theorems what were only solutions of particular problems.

It is a matter sufficiently well known, that beauty is as various as the variety of mental emotion. Some kinds of beauty are melancholy, and some are cheerful —some humble and some simple—and others commanding and magnificent: and we are moved accordingly, by the contemplation of all those varied species, either to pensive tenderness—to love, pity, and regret—or to gay and airy imaginations—or to still and tranquil thought—or to admiration, humility, and awe. But if it be true, that the emotions which we receive from beauty are thus various in themselves, and that they partake thus largely of the character of other emotions, why should we not conclude that they are but modifications of those more familiar affections, and that the beauty which we impute to external objects, is nothing more than their power of reflecting these several inward affections. This, accordingly, is the theory adopted by Mr Alison, and made out by him on the most satisfactory evidence.

In explaining this, it will be necessary to attend to an important fact connected with human nature,—we mean that *the love of sensation is its ruling appetite.* So much so, indeed, that many sensations, in which *the painful* seems greatly to predominate, are sought for with avidity, and recollected with interest, even in our own persons. All sensations that are not absolutely indifferent, and which are, at the same time, either agreeable when experienced by ourselves, or attractive when contemplated by others, may form the foundation of the emotions of sublimity or beauty. And every feeling which it is agreeable to experience, to recall, or to witness, may become the source of beauty in external objects, when it is so connected with them that their appearance reminds us of that feeling. Now, we know, from our own daily experience and observation, that it is agreeable to us to recall our own past pleasurable sensations, or to be enabled to form a lively conception of the pleasurable sensations of other men, or even of sentient beings of any description. We also know, that there is a certain delight in the remembrance of our past emotions, even though these emotions might have been attended with great pain at the time they were originally excited, provided such emotions be not forced too rudely on the mind, and that they are rendered more palatable, by being softened by the accompaniment of some milder feeling. And finally, we know that the exhibition or conception of the emotions of others, even when in a high degree painful, is extremely interesting and attractive, and draws us away, not only from the consideration of indifferent objects, but even from the pursuit of light or frivolous enjoyments.

These emotions, then, are not original emotions, nor produced directly by any qualities inherent in the objects which excite them. They are mere reflections, or images of those emotions already radically and familiarly existing in the mind. They are not the direct result of any peculiar virtue intrinsically belonging to the objects before us, but are accidentally awakened by something in those objects, which reminds us of our own past sensations and sympathies. These objects are but mirrors, which have the power of reflecting our previous emotions; and, as an ordinary mirror gives us a different image each time that a different individual is placed before it, just so various are those emotions which are reflected by external objects from the minds of different individuals.

Every tie by which two objects can be bound together in the imagination, so that the presentment of the one shall recall the memory of the other; or, in other words, almost every possible relation which can subsist between such objects, may serve to connect the things we call sublime and beautiful with feelings that are interesting or delightful. Mr Alison has not made any attempt to class or enumerate their various relations, the finer shades of which are perhaps as numerous and indefinable as are the changes produced by the seven notes of music; but he has very properly grouped them all together, under the sweeping name of *Associations.*

Nothing, in the whole range of Nature, is more strikingly and universally sublime than thunder; yet it seems obvious, that the sublimity is produced, not by any quality that is made sensible to the ear, but altogether by the impression of power and danger that is necessarily made upon the mind, whenever that sound is heard. That it is not produced by any peculiarity in the sound itself, is certain, from the mistakes and impositions that are frequently made with regard to it. The noise of a cart rattling over the stones is often mistaken for thunder. We have ourselves seen a whole party filled with awe and dismay for a considerable time, by a waggish boy slipping up the sash of a window, and cunningly hanging out a broad thick sheet of drawing paper, and then gently agitating it backwards and forwards, so as to produce a very accurate resemblance of thunder. As long as those who listen are deceived, such vulgar and insignificant noises are actually felt to be very sublime. They are so felt, because they are then associated with ideas of prodigious power and undefined danger; and the sublimity is destroyed the moment the association is dissolved, though the sounds themselves, and their effect on the organ, continue exactly the same. Sublimity, then, is here proved to exist, not in any physical quality of the object to which it is ascribed, but in its necessary connection with that vast and uncontrolled Power, which is the natural object of awe and veneration.

It is easy enough to understand how the sight of a picture or a statue should affect us nearly in the same way as the sight of the original; nor is it much more difficult to conceive how the sight of a cottage should give us something of the same feeling as the sight of a peasant's family; and the aspect of a town raise many of the same ideas as the appearance of a multitude of persons. Let us, then, take an example a little more complicated, as, for instance, the case of a common English landscape,—green meadows, with fat cattle—canals, or navigable rivers—well fenced, well cultivated fields—neat, clean, scattered cottages—humble antique church, with churchyard elms, and crossing hedgerows,—all seen under bright skies, and in good weather. There is much beauty, as every one will acknowledge, in such a scene. But in what does the beauty consist? Not, certainly, in the mere mixture of colours and forms; for colours more pleasing, and lines more graceful, (according to any theory of grace that may be preferred,) might be spread upon a board or a painter's pallet, without engaging the eye to a second glance, or raising the least emotion in the mind: but in the picture of human happiness that is presented to our imaginations and affections—in the visible and unequivocal signs of comfort, and cheerful and peaceful enjoyment, and of that secure and successful industry that ensures its continuance—and of the piety with which it is exalted—and of the simplicity by which it is contrasted with the guilt and the fever of a city life—in the images of health, and temperance, and plenty, which it exhibits to every eye—and the glimpses which it affords, to warmer imaginations, of those primitive or fabulous times when man was uncorrupted by luxury and ambition, and of those humble retreats in which we still delight to imagine that love and philosophy may find an unpolluted asylum. At all events, however, it is human feeling that excites our sympathy, and forms the object of our emotions. It is man, and man alone, that we see in the beauties of the earth which he inhabits; or, if a more sensitive and extensive sympathy connect us with the lower families of animated nature, and make us rejoice with the lambs that bleat on the uplands, or the cattle that ruminate in the valley, or even with the living plants that drink the bright sun and the balmy air, it is still the idea of enjoyment of feelings that animate the existence of sentient beings, that calls forth all our emotions, and is the parent of all that beauty with which we invest the objects of inanimate creation around us.

Instead of this quiet and tame English landscape, let us now take a Welsh or a Highland scene, and see whether its beauties will admit of being explained on the same principle. Here we shall have lofty mountains, and rocky and lonely recesses—tufted woods hung over precipices—lakes intersected with castled promontories—ample solitudes of unploughed and untrodden valleys—nameless and gigantic ruins—and mountain echoes, repeating the scream of the eagle and the roar of the cataract. This, too, is beautiful; and to those who can interpret the language it speaks, far more beautiful than the prosperous scene with which we have contrasted it. Yet, lovely as it is, it is to the recollection of man, and of human feelings, that its beauty is also owing. The mere forms and colours that compose its visible appearance, are no more capable of exciting any emotion in the mind, than the form and colour of a Turkey carpet. It is sympathy with the present or the past, or the imaginary inhabitants of such a region, that alone gives it either interest or beauty; and the delight of those who behold it, will always be found to be in exact proportion to the force of their imaginations, and the warmth of their social affections. The leading impressions here, are those of romantic seclusion and primeval simplicity—lovers sequestered in these blissful solitudes, "from towns and toils remote"—and rustic poets and philosophers communing with nature, at a distance from the low pursuits and selfish malignity of ordinary mortals; then there is the sublime impression of the Mighty Power, which piled the massive cliffs upon each other, and rent the mountains asunder, and scattered their giant fragments at their base; and all the images connected with the monuments of ancient magnificence and extinguished hostility—the feuds, and the combats, and the triumphs of its wild and primitive inhabitants, contrasted with the stillness and desolation of the scenes where they lie interred—and the romantic ideas attached to their ancient traditions, and the peculiarities of their present life—their wild and enthusiastic poetry—their gloomy superstitions—their attachment to their chiefs—the dangers, and the hardships, and enjoyments of their lonely huntings and fishings—their pastoral shielings on the mountains in summer, and the tales and the sports that amuse the little groups that are frozen into their vast and trackless valleys in the winter. Add to this, the traces of vast and obscure antiquity that are impressed on the language and habits of the people, and on the cliffs, and caves, and gulfy torrents of the land, and the solemn and touching reflection perpetually recurring, of the weakness and insignificance of perishable man, whose generations thus pass away into oblivion, with all their toils and ambition, while Nature holds on her unvarying course, and pours out her streams, and renews her forests, with undecaying activity, regardless of the fate of her proud and perishable sovereign.

According to our experience, as well as according to the theory we espouse, this is by no means an exact transcript of the images and feelings which such scenery must excite in all beholders; but it is a specimen of the manner in which it operates on the heart and imagination, and of the nature of that connection which is established between our natural sympathies, and the visible peculiarities of our mountain landscapes. There is an endless variety in the trains of thought to which this kind of scenery is calculated to give rise; and, in this respect, it differs essentially from the scenery of a more cultivated region, where there is scarcely any very decided expression but that of comfort and tranquillity. To make amends, however, it must be admitted, that this last expression is much more clear and obvious to beholders of every degree and description. There is scarcely any one who does not feel and understand the beauty of smiling fields and comfortable cottages; but the beauty of lakes and mountains is not so universally distinguishable. It requires some knowledge of our species — some habits of reflection — some play of fancy—some exercise of affection, to interpret the lofty characters in which Nature here speaks to the heart and the imagination; and reflects, from the broken aspects of the desert, the most powerful images of the feelings and the fortunes of man. The beauty of picturesque regions is, therefore, truly felt by a very small number out of the great mass of mankind; and that confession which was made by two Cockney tourists was a very honest confession, in which they fairly admitted, that they could discover no beauty in the naked mountains and dreary lakes of the Scottish Highlands, and expressed their astonishment how any intelligent person could voluntarily pass his time in the cold and laborious pastimes which they afforded, when he might have devoted it to the gaiety of plays, operas, and polite assemblies. They accordingly posted back to London as fast as possible; and, after yawning, in a sort of disconsolate terror, on the recollection of the banks of Loch Lomond, they enlarged, with much animation, on the beauty and grandeur of—*Finsbury Square!*

The pleasures we derive from the contemplation of the objects of Nature during the season of spring, are all referable to those human sympathies and emotions with which they are linked. Winter has shades as deep, and colours as brilliant; and the great forms of Nature are substantially the same through all the revolutions of the year. We shall seek in vain, therefore, in the accidents of mere organic matter, for the sources of that vernal delight and joy, which subject all finer spirits to an annual intoxication, and strike home the sense of beauty even to hearts that seem proof against it under all other aspects. And it is not among the dead, but among the living, that this beauty originates. It is the renovation of life and of joy to all animated beings, that constitutes this great jubilee of Nature,—the young animals bursting into existence—the simple and universal pleasures which are diffused by the mere temperature of the air, and the profusion of sustenance—the pairing of birds—the cheerful resumption of rustic toils—the great alleviation of all the miseries of poverty and sickness—our sympathy with the young life, and the promise and the hazards of the vegetable creation—the solemn, yet cheering, impression of the constancy of Nature to her great periods of renovation—and the hopes that dart spontaneously forward into the new circle of exertions and enjoyments that is opened up by her hand and her example. Such are some of the conceptions that are forced upon us by the appearances of returning spring, and that seem to account for the emotions of delight with which these appearances are hailed by every mind endowed with any degree of sensibility, somewhat better than the brightness of the colours, or the agreeableness of the smells, which are then presented to our senses.

Autumn has its associations too; but the pleasure which they yield, as we shall afterwards learn from Mr Alison himself, is more allied to that which we derive from melancholy recollections. For our own part, we in ourselves furnish a pretty good illustration of the theory we are now endeavouring to impress on our readers; for, as we are disposed to think that the young are more apt to extract pleasure from sombre associations, whilst the old are better pleased with cheerful than with sad recollections, so we can remember the time when autumn was productive of much more pleasing emotions than it now awakens in us; and we must honestly confess, that every year that passes over our heads makes autumn, and the dreary season of which it is the forerunner, less and less welcome to us, reminding us, as it never fails to do, by the decay and fall of the glories of vegetable nature, of that decay through which we must now rapidly advance towards our own fall. This example naturally leads us to the consideration of what may be called the second class of cases, or those in which the external object is not the natural and necessary, but only the occasional, or accidental, concomitant of the emotion which it recalls, in contradistinction to the first class of cases, where, from the universality of the associations awakened by the objects, some conception of beauty seems to be inseparable from their appearance; and this being impressed, in some degree, upon all persons to whom they are presented, there is evidently room for insinuating, that it may be an independent and intrinsic quality of their nature. In the reference which we have made to ourselves, however, and still more in the instances to which we are now to allude, this perception of beauty is not universal, but entirely dependent upon the opportunities which each individual has had to associate ideas of emotion with the object to which it is ascribed; the same thing appearing beautiful to those who have been exposed to the influence of such associations, and indifferent to those who have not been so. It is not easy, therefore, to conceive any more complete evidence, both that there is no such thing as absolute or intrinsic beauty, and that it depends altogether on those associations with which it is thus found to come and to disappear.

The accidental or arbitrary relations that may thus be established between natural sympathies or emotions and external objects, may be either such as occur to whole classes of men, or are confined to particular individuals. Among the former, those that apply to different nations, or races of men, are the most important and remarkable, and constitute the basis of those peculiarities by which national tastes are distinguished. Take, for example, the instance of female beauty, and think what different and inconsistent standards would be fixed for it in the different regions of the world,—in Africa, in Asia, and in Europe; in Tartary and in Greece; in Lapland, Patagonia, and Circassia. If there were any thing absolutely and intrinsically beautiful in any of the forms thus distinguished, it is inconceivable that men should differ so materially in their conceptions of it. If beauty were a real and independent quality, it seems impossible that it should be distinctly and clearly felt by one set of persons, where another set, altogether as sensitive, can see nothing but its opposite; and if it were actually and inseparably attached to certain forms, colours, and proportions, it must appear utterly inexplicable that it should be felt and perceived in the most opposite forms and proportion, in objects of the same description. On the other hand, if all beauty, according to our theory, consists in the object reminding us of certain natural sympathies and objects of emotion with which they have been habitually connected, it is easy to perceive how the most different forms and colours should be felt to be beautiful by different individuals or nations. It is owing chiefly to this arbitrary national association, that white is thought gay in Europe, where its being used at weddings, &c. has given to it the power of exciting cheerful ideas; whilst in China, it is considered dismal, because it is there used for mourning; and, in the same way, yew trees are by many considered gloomy, because they are planted in churchyards; and large masses of powdered horsehair are deemed majestic, because they are to be seen on the heads of chancellors and judges. We remember to have seen somewhere a case supposed, where a tattooed savage, covered with grease and ochre, and with his ears and nose perforated by huge fish bones, encountered a beau of the last age, in all the perfection of a powdered peruke, bag, and solitaire. Each looked with horror and contempt on the other, and with equal reason and justice.

Next to those curious instances of arbitrary or limited associations that are exemplified in the diversities of national taste, are those which are produced by the differences of instruction or education. If external objects were sublime or beautiful in themselves, it is plain that they would appear equally so to those who were acquainted with their origin, and to those to whom it was unknown. Yet it is not easy, perhaps, to calculate the degree to which our notions of beauty and sublimity are now influenced over all Europe, by the study of classical literature; or the number of impressions of this sort which the well educated consequently receive from objects that are utterly indifferent to uninstructed persons of the same natural sensibility. We gladly avail ourselves, upon this subject, of the beautiful expressions of Mr Alison:—

“The delight which most men of education receive from the consideration of antiquity, and the beauty that they discover in every object which is connected with ancient times, is in a great measure to be ascribed to the same cause. The antiquarian in his cabinet, surrounded by the relics of former ages, seems to himself to be removed to periods that are long since past, and indulges in the imagination of living in a world which, by a very natural kind of prejudice, we are always willing to believe, was both wiser and better than the present. All that is venerable or laudable in the history of these times, present themselves to his memory. The gallantry, the heroism, the patriotism of antiquity, rise again before his view, softened by the obscurity in which they are involved, and rendered more seducing to the imagination by that obscurity itself, which, while it mingles a sentiment of regret amid his pursuits, serves, at the same time, to stimulate his fancy to fill up, by his own creation, those long intervals of time of which history has preserved no record. The relics he contemplates seem to approach him still nearer to the ages of his regard. The dress, the furniture, the arms of the times, are so many assistances to his imagination in guiding or directing its exercise; and, offering him a thousand sources of imagery, provide him with an almost inexhaustible field, in which his memory and his fancy may expatiate. There are few men who have not felt somewhat of the delight of such an employment. There is no man in the least acquainted with the history of antiquity, who does not love to let his imagination loose on the prospect of its remains, and to whom they are not in some measure sacred, from the innumerable images which they bring. Even the peasant, whose knowledge of former times extends but to a few generations, has yet in his village some monument of the deeds or virtues of his forefathers; and cherishes, with a fond veneration, the memorial of those good old times to which his imagination returns with delight, and of which he loves to recount the simple tales that tradition has brought him. And what is it that constitutes that emotion of sublime delight, which every man of common sensibility feels, upon the first prospect of Rome? It is not the scene of destruction which is before him. It is not the Tiber, diminished in his imagination to a paltry stream, flowing amid the ruins of that magnificence which it once adorned. It is not the triumph of superstition over the wreck of human greatness, and its monuments erected upon the very spot where the first honours of humanity have been gained. It is ancient Rome which fills his imagination. It is the country of Cæsar, and Cicero, and Virgil, which is before him. It is the Mistress of the World which he sees, and who seems to him to rise again from her tomb to give laws to the universe. All that the labours of his youth, or the studies of his maturer age have acquired, with regard to the history of this great people, open at once before his imagination, and present him with a field of high and solemn imagery which can never be exhausted. Take from him these associations —conceal from him that it is Rome that he sees—and how different would be his emotions!"

We have felt the full force of these last observations of Mr Alison during our wanderings in Italy, where we uniformly remarked, that the pleasure derived by travellers in surveying its ancient remains, was exactly in proportion to the extent of cultivation in ancient literature which their minds had received; and it did happen to us to meet with men, who, whatever they might pretend to feel, did in reality reap no more delight from the contemplation of the palace of the Cæsars, or the Colloseum, than they would have done from any other ruined accumulation of stones, bricks, and mortar, of the most vulgar origin, and who went home to their native country with minds as void and wearied as were those of the two Cockney tourists after their journey in Scotland.

There is scarcely any class in society which could not be shewn to have peculiar associations of interest and emotion with objects which are not so connected in the minds of any other class. The young and the old—the rich and the poor—the artist and the man of science—the inhabitant of the city and the inhabitant of the country—the man of business and the man of pleasure—the domestic and the dissipated—nay, even the followers of almost every different study or profession, have perceptions of beauty, because they have associations with external objects, that are peculiar to themselves, and have no existence for any other persons. "There is no man," says Mr Alison, "who has not some interesting associations with particular scenes, or airs, or books, and who does not feel their beauty or sublimity enhanced to him by such connections. The view of the house where one was born—of the school where one was educated, and where the gay years of infancy were passed,—is indifferent to no man. They recall so many images of past happiness and past affections—they are connected with so many strong or valued emotions, and lead altogether to so long a train of feelings and recollections, that there is hardly any scene which one ever beholds with so much rapture. There are songs also, that we have heard in our infancy, which, when brought to our remembrance in after years, raise emotions for which we cannot well account; and which, though perhaps very indifferent in themselves, still continue, from this association, and from the variety of conceptions which they kindle in our minds, to be our favourites through life. The scenes which have been distinguished by the residence of any person whose memory we admire, produce a similar effect. 'Movemur enim, nescio quo pacto, locis ipsis, in quibus eorum, quos diligimus, aut admiramur adsunt vestigia.' The scenes themselves may be little beautiful; but the delight with which we recollect the traces of their lives, blends itself insensibly with the emotions which the scenery excites; and the admiration which these recollections afford, seems to give a kind of sanctity to the place where they dwelt, and converts every thing into beauty which appears to have been connected with them."

We can bear ample testimony to the hallowed influence which the shade of genius diffuses over the scenes which it gladdened during life. We have visited those which have been rendered interesting by having been the resort of Horace, Virgil, Cicero, and other men of genius of ancient Rome, and many other spots similarly blessed by the footsteps of talent. But, what is peculiarly calculated to bear testimony to the theory in question, we are conscious that we never enjoyed more pleasure than in thoroughly examining all those spots which Cowper was wont to haunt. Much of this might, with others, be ascribed to the peculiar interest which Cowper's extreme sensibility and gloomy malady threw around him; but we know that with us it was chiefly to be attributed to a very early acquaintance which we accidentally had with the poet's works. As to the effect of old remembered airs or songs, we recollect an anecdote of some Scottish officers who had occasion to coast along the Italian shores in an open boat. Suddenly their attention was awakened by a woman's voice singing unseen amid the foliage. The notes were not strangers to them, and they hushed the oars to stop and listen. It was that lovely, simple, and touching air of their native land, *The broom of the Cowdenknowes*, which she sang. Their manly hearts were dissolved by it into tenderness, and they wept. Their feelings then prompted them to land in search of the songstress, when, to their great surprise, they found an old woman, a native of Scotland, seated on a settle at her cottage door, twirling her distaff, and lightening her easy labour with these strains of her youth. She had married a soldier in early life, and having been deprived of her husband by the fate of war, she was thrown, by the tide of accident, into the spot where her countrymen found her. Full of grateful feelings for those pleasurable associations which her simple melody had awakened, they eagerly offered to convey her home to her country and friends: But, alas! friends she had none, and as to country, she had now been long rooted in the Italian soil, and her enjoyment of that which gave her birth, and where her early years had been spent, was perhaps greater in the dreamy imaginings which her native ballads were wont to conjure up in her mind, than it could have been in any thing that the reality could have possibly yielded her.

We have hitherto considered the external object as acquiring its character of beauty by being actually or directly connected with the causes of our natural emotions, either as a sign of their existence, or as being locally present to their ordinary occasions. There is a relation, however, of another kind, to which it is necessary to attend, both to elucidate the general grounds of the theory, and to explain several appearances that might otherwise expose it to objections. This is the relation which external objects may bear to our internal feelings, and the power they may consequently acquire of suggesting them, in consequence of a sort of resemblance or analogy which they seem to have to their natural and appropriate objects. The language of poetry is founded in a great degree upon this analogy; and all language, indeed, is full of it, and attests by its structure, both the extent to which it is spontaneously pursued, and the effects which are produced by its suggestion. We take a familiar instance from Mr Alison himself.

" What, for instance, is the impression we feel from the scenery of spring? The soft and gentle green with which the earth is spread—the feeble texture of the plants and flowers—the young of animals just entering into life, and the remains of winter yet lingering among the woods and hills,—all conspire to infuse into our minds somewhat of that fearful tenderness with which infancy is usually beheld. With such a sentiment, how innumerable are the ideas which present themselves to our imagination,—ideas, it is apparent, by no means confined to the scene before our eyes, or to the possible desolation which may yet await its infant beauty, but which almost involuntarily extend themselves to analogies with the life of man, and bring before us all those images of hope or fear, which, according to our peculiar situations, have the dominion of our hearts. The beauty of autumn is accompanied with a similar exercise of thought. The leaves begin then to drop from the trees—the flowers and shrubs with which the fields were adorned in the summer months, decay—the woods and groves are silent—the sun himself seems gradually to withdraw his light, or to become enfeebled in his power. Who is there, who at this season does not feel his mind impressed with a sentiment of melancholy? or, who is able to resist that current of thought, which, from such appearances of decay, so naturally leads him to the solemn imagination of that inevitable fate, which is to bring on alike the decay of life, of empire, and of nature itself?"

We sometimes meet with objects which excite in us a general and vague impression of a particular class of emotions, which we feel convinced they must excite in the great bulk of mankind possessing sensibility, just as they do in ourselves; and we have, moreover, an undefined sort of consciousness of the capability of the objects before us to suggest trains of ideas well fitted to give scope to these emotions. The objects themselves, however, do very rarely prescribe the precise nature of these ideas; and, while an immense multitude of loose analogies and kindred recollections roll dimly over the mind, we are left to form them into such groups and combinations as we ourselves may select; and are tempted every moment to change the form of our cloudy creation, and to wander from one set of images to another, even when we look upon a single form of beauty. But this is more remarkably the case when the beauty that enchants us is of a more compound and complicated nature, and consists, as in the case of a fine landscape, of a great variety of parts and features, each of which may possess a peculiar character or shade of expression.

Take, for example, the scenery, so beautifully described by Scott, on the borders of Loch Katrine. All mankind may perhaps agree that the general images which it is calculated to suggest are those begetting ideas of seclusion—of a life set free from the cares of the world, and hidden from its observation—of sympathy with the simple joys and animating toils of its natives—and of awe and veneration for the Power which has left the traces of his might on the cliffs and mountains. But although this may be the general effect produced by the scenery of Loch Katrine on the minds of almost all mankind, yet the particular train of images, by the help of which those general impressions may be moulded into distinct objects of emotion, must depend altogether upon the taste, dispositions, and information of every different beholder. Thus, Fitz-James, with a due attention to his joyous and social character, is made to fill up the outline by planting an ideal castle, filled with hunters and fair ladies, on the steep—and an abbey of jolly ecclesiastics on the meadow—and by rousing the mountain echoes with the hunting horn, and the matin bell and chant. While Rousseau, in describing a kindred scene, displays, in a manner much more characteristic, the romantic tenderness of his fancy, when he says that it seemed like an asylum which Nature had spared for two faithful lovers, escaped alone from the ruin and desolation of the universe. To a mind familiar with the imagery of Celtic poetry, the same scene, it is obvious, might have presented a vision of white-armed virgin archers, and gray-haired bards, and warriors arming to redress the wrongs of damsels: while to a wilder or more gloomy fancy, it might have disclosed a picture of moonlight fairies and goblins — or dens of ambushed banditti — or the onset of revengeful clans, and the triumphs of patriarchal chieftains. We may be able to say with certainty that a particular air is pathetic and plaintive, and all mankind may agree with us in this; but each particular hearer will imagine that it expresses a different sort of sorrow, and will have a different train of association touched and awakened by it. To some, it will impart a vision of mothers wailing over their dead children; and to others, of divided lovers complaining of perfidy or fortune: to one, it will speak of the desolation of captive warriors; to another, of the moanings of secluded penitence: in short, its general character being once established, the variety of the minuter branches of association into which it may germinate with different individuals, is endless.

We have now said enough to give an attentive reader that general conception of the theory of Mr Alison, which is all that we can hope to give in the narrow limits to which we are confined. It may be observed, however, that we have spoken only of those sorts of beauty that we think capable of being resolved into some passion, or emotion, or pretty lively sentiment of our nature; and although these are undoubtedly the highest and most decided kinds of beauty, yet many things are called beautiful which cannot claim so lofty a connection. It is necessary, therefore, to observe, that although every thing that excites any feeling worthy to be called *an emotion*, by its beauty or sublimity, will be found to be related to the natural objects of human passions or affections, there are many things which are pleasing or agreeable enough to be called beautiful, in consequence of their relation merely to human convenience and comfort; many others that please by suggesting ideas of human skill and ingenuity; and many that obtain the name of beautiful, by being associated with human fortune, vanity, or splendour. These all please upon the same great principle of sympathy with human feelings; and are explained by the simple and indisputable fact, that we are pleased with the direct contemplation of human comfort, ingenuity, and fortune. All these, indeed, obviously resolve themselves into the great object of sympathy,—human enjoyment, convenience, and comfort, being but other names for a lower but very indispensable ingredient of that emotion. Skill and ingenuity readily present themselves as means by which enjoyment may be promoted; and high fortune, and opulence, and splendour, pass, at least at a distance, for its certain causes and attendants. The beauty of fitness and adaptation of parts, even in the works of nature, is derived from the same fountain,—partly by means of its obvious analogy to works of human skill, and partly by suggestions of that creative power and wisdom to which human destiny is subjected. The feelings, therefore, associated with all those qualities, though scarcely rising to the height of emotion, are obviously in a certain degree pleasing or interesting; and when several of them happen to be united in one object, may accumulate to a very great degree of beauty.

There are few things about which men of *virtu* are more apt to rave, than the merits of the Grecian architecture; and most of those who affect an uncommon purity and delicacy of taste, talk of the intrinsic beauty of its proportions as a thing not to be disputed, except by barbarian ignorance and stupidity. Mr Alison has atisfactorily confuted this mysterious dogma, and has shewn that he believes that the beauty of these objects arises from the combination of the following associations:—1*st*, The association of utility, convenience, or fitness, for the purposes of the building; 2*d*, Of security and stability, with a view to the nature of the materials; 3*d*, Of the skill and power requisite to mould such materials into forms so commodious; 4*th*, Of magnificence, and splendour, and expense; 5*th*, Of antiquity; and, 6*th*, Of Roman and Grecian greatness. We confess that, in our opinion, the two last conditions are the most powerful of the whole, for we have always remarked, that in all architecture of a Greek character, the existence of the four first conditions had no effect in sustaining the beauty of the edifice, where any anomalous innovation was permitted to destroy the purity of that style which, sanctified by Grecian associations, has been transmitted to us through so many ages. As an example of this, we shall notice one glaring absurdity which is fallen into daily, even by those who are esteemed our best architects, and which, although it passes uncriticised by the vulgar or unlearned eye, never fails greatly to outrage the feelings of any one, who has not, like them, overlooked those first principles from which Greek architecture has sprung, which never can be broken in upon without offence. We allude to the custom of burying a pediment in the front of a building. A Greek temple, to speak of its plan in round terms, and without particularizing its columns, was a simple oblong building, with a roof and upright gables at each end. Now, the pediments were nothing more in reality than the termination of the roof at each end of the building, and thus, of course, the pediment invariably covered the whole end of the building. To place a pediment, then, at one end of a building, without constructing it so as to cover the whole end of it, is to suggest the idea that it is but partially roofed, a notion that immediately renders it obnoxious. But if it be offensive in this way, how truly disgusting to every well informed mind does it become, when it is crammed into the centre of the front of a building, especially when the deformity is augmented by its being not only built up at the sides, but loaded above also, as we find it in the front of St Peter's at Rome, or in that of the mansionhouse in London. Yet this practice, which so much offends the learned eye, passes every day as beautiful with those who know no better, thus furnishing a most apt illustration of the theory of association, which we are now engaged in elucidating.

This theory establishes the substantial identity of the sublime, the beautiful, and the picturesque ; and consequently puts an end to all the controversy that is not purely verbal, as to the difference of those several qualities. Every material object that interests us, without actually hurting or gratifying our bodily feelings, must do so in one and the same manner,—that is, by suggesting or recalling some emotion or affection of ourselves, or some other sentient being, and presenting to our imagination at least, some natural object of love, pity, admiration, or awe. The interest of material objects, therefore, is always the same ; and arises, in every case, not from any physical qualities they may possess, but from their association with some idea of emotion. But though material objects have but one means of exciting emotion, the emotions they do excite are infinite. They are mirrors that may reflect all shades and colours ; and, in point of fact, do seldom reflect the same lines twice. No two interesting objects, perhaps, whether known by the name of beautiful, sublime, or picturesque, ever produced exactly the same emotion in the beholder ; and no one object, it is most probable, ever moved any two persons to the very same concepions. As they may be associated with all the feelings and affections of which the human mind is susceptible, so they may suggest those feelings in all their variety, and, in fact, do daily suggest all sorts of emotions—running through every gradation, from extreme gaiety and elevation, to the borders of horror and disgust.

All the variety of emotions raised on the basis of association may be classed, in a rude way, under the denominations of sublime, beautiful, and picturesque, according as they partake of awe, kindness, or admiration. The only objection to this nomenclature is its imperfection. If objects that interest by their association with ideas of power, and danger, and terror, are to be distinguished by the peculiar name of sublime, why should there not be a separate name also for objects that interest by associations of mirth and gaiety,—another for those that please by suggestions of softness and melancholy,—another, for such as are connected with impressions of comfort and tranquillity,—and another, for those that are related to pity, and admiration, and love, and regret, and all the other distinct emotions and affections of our nature? These are not in reality less distinguishable from each other, than from the emotions of awe and veneration that confer the title of sublime on their representatives; and while these are all confounded under the comprehensive appellation of Beauty, the distinction of that name is only apt to mislead us into an erroneous opinion, that we are very accurate, and to make us believe, both that there is a greater conformity among the things that pass under the same name, and a greater difference between those that pass under different names, than really is the case. The radical error is the supposition that every particular thing that passes under the name of Beautiful, must have some quality in common with all other things so called; whilst Sublimity is not only supposed to be something radically different from Beauty, but something actually opposite to it; whereas, the fact is, that it is far more nearly related to some sorts of beauty, than many sorts of beauty are to each other; and that both are founded exactly upon the same principle,—that of possessing the power of suggesting to the mind, some past or possible emotion of some sentient being.

Mr Alison's theory puts an end to all those perplexing and vexatious questions about the standard of taste, which have given rise to so much impertinent, and so much elaborate discussion. If things are not beautiful in themselves, but only as they serve to suggest interesting conceptions to the mind, then every thing which does, in point of fact, suggest such a conception to any individual, is beautiful to that individual; and it is not only quite true that there is no room for disputing about tastes, but the fact is indisputable, that all tastes are equally just and correct, in so far as each individual speaks only of his own emotions. When a man calls a thing beautiful, he may, indeed, mean to make two very different assertions. He may mean that it gives him pleasure, by suggesting to him some interesting emotion; and in this sense, there can be no doubt that, if he merely speaks truth, the thing is beautiful; and that it pleases him precisely in the same way that all other things please those to whom they appear beautiful. But if he means to say that the thing possesses some quality which ought to make it appear beautiful to every other person, and that it is owing to some prejudice or defect in other people, if it appears otherwise to them, then he is unreasonable and absurd.

All tastes, then, are equally just and true, in so far as concerns the individual in question; and what a man feels distinctly to be beautiful, is beautiful to him, whatever other people may think of it. All this follows clearly from Mr Alison's theory. But it does not follow from it that all tastes are equally good or desirable, or that there is any difficulty in describing that which is really the best and the most to be envied. The only use of the faculty of Taste, is to afford an innocent delight, and to aid the cultivation of a finer morality; and that man certainly will have the most delight from this faculty who has the most numerous and the most powerful perceptions of beauty. But if Beauty consists in the reflection of our affections and sympathies, it is plain that he will see the most beauty whose affections are warmest and most exercised — whose imagination is the most powerful — and who has most accustomed himself to attend to the objects by which he is surrounded. In so far as mere feeling and enjoyment are concerned, therefore, it seems evident, that the best taste must be that which belongs to the best affections, the most active fancy, and the most attentive habits of observation. It will follow pretty exactly, too, that all men's perceptions of beauty will be nearly in proportion to the degree of their sensibility and social sympathies; and that those who have no affections towards sentient beings, will be just as insensible to beauty in external objects, as he who cannot hear the sound of his friend's voice, must also be deaf to it when repeated by an echo.

The only cultivation that taste requires, for the mere gratification of the individual, should be through the indirect channel of cultivating the affections and powers of observation. If we aspire, however, to be creators, as well as observers of beauty, and place any part of our happiness in ministering to the gratification of others — as artists, landscape gardeners, poets, or authors of any note — then, indeed, a new distinction of tastes, and a far more laborious cultivation, will be necessary. He who is ambitious of creating beauties for the admiration of others, must be cautious to employ only such objects as are the natural signs and inseparable concocomitants of emotions, of which the greater part of mankind are susceptible; and his taste will then be called bad and false, if he obtrudes upon the public, as beautiful, objects that are not likely to be associated, in common minds, with any interesting impressions. From this last remark it will be seen, that even a refined taste, such as that to which we alluded when speaking of the abuse of the pediment in modern architecture, though in itself quite true as to its principles of association, may yet fail in exciting a general sympathy of emotion among mankind, from the lack of general learning, and, consequently, it may run the risk of being called bad. We do not, however, consider the possession of such a taste as the less enviable on that account, nor because it is enjoyed by the learned few.

For a man himself, as already hinted, there is no taste that is either bad or false,—the only difference between man and man, in this view of the subject, is in that of degree. Some who have cold affections, sluggish imaginations, and no habits of observation, can scarcely see beauty in any thing; while others, who are full of kindness and sensibility, and who have been accustomed to attend to all the objects around them, feel it in almost every thing. It is no matter what other people may think of the objects of their admiration, nor ought it to be any concern of theirs, that the public would be astonished or offended if they were called upon to join in that admiration. So long as no such call is made, this anticipated discrepancy of feeling need give *them* no uneasiness, and the suspicion of it should produce no contempt in any other persons. It is a strange aberration, indeed, of vanity, that makes us despise persons for being happy — for having sources of enjoyment in which we cannot share: and yet this is the true account of the ridicule we bestow upon individuals, who seek only to enjoy their peculiar tastes unmolested; for if there be any truth in the theory we have been expounding, no taste is bad for any other reason than because it is peculiar — as the objects in which it delights must actually serve to suggest to the individual those common emotions and universal affections upon which the sense of beauty is every where founded. The misfortune is, however, that we are apt to consider all persons who communicate their tastes, and especially all who create any objects for their gratification, as, in some measure, dictating to the public, and as setting up an idol for general adoration; and hence this intolerant interference with almost all peculiar perceptions of beauty, and the unsparing derision that pursues all deviations from acknowledged standards. This intolerance, we admit, is often provoked by something of a spirit of proselytism and arrogance, in those who mistake their own casual associations for natural or universal relations; and the consequence is, that mortified vanity dries up the fountain of their peculiar enjoyment, and disenchants, by a new association of general contempt or ridicule, the scenes which had been consecrated by some innocent but accidental emotion.

As we proposed to our readers at the commencement of this dissertation, we have copiously availed ourselves of the Review of Alison on Taste, and we have done so, as much as possible, in the very words of the author, occasionally interweaving our own shreds with his more valuable observations. We are not without a hope, however, that the tissue, such as it is, will be found sufficiently compact and intelligible, and that the reader will now be enabled to go hand in hand with Mr Gilpin through his delightful "Forest Scenery," enjoying all the pictures that may be presented to him, whilst, at the same time, he may have the additional pleasure of tracing the true sources of his enjoyment. Let him bear in mind that Mr Gilpin was one of those mortals happily gifted with a perception of the beauty, the sublimity, and the picturesque effect of external objects; for his affections were warm and well exercised, his imagination was lively and powerful, and his whole life was spent in a devoted contemplation of the objects by which he was surrounded. One thing farther only requires to be remarked regarding him, and that is, that being himself addicted to the art of delineating the objects he beheld, particularly those of Nature, his mind was necessarily brimful of strong associations with that art; and consequently, it will be found that his admiration rather leans too exclusively to those objects which have been either most generally made the subjects of pictures by the best masters, or which he felt were most capable of being so employed—objects, in short, which may be most properly called picturesque; and this feeling very often makes him pass somewhat too lightly over objects capable of exciting a much wider and much more exquisite sympathy of emotion.

The following very beautiful tale by Mr Crabbe, whilst it exhibits all his power as a skilful delineator of Nature, even in her minutest circumstances, will be found to afford a more perfect illustration of Mr Alison's theory than any we have yet laid before him.

THE LOVER'S JOURNEY.

It is the soul that sees; the outward eyes
Present the object, but the mind descries;
And thence delight, disgust, or cool indiff'rence rise:
When minds are joyful, then we look around,
And what is seen is all on fairy ground;
Again they sicken, and on every view
Cast their own dull and melancholy hue;
Or if, absorb'd by their peculiar cares,
The vacant eye on viewless matter glares,
Our feelings still upon our views attend,
And their own natures to the objects lend;
Sorrow and joy are in their influence sure,
Long as the passion reigns th' effects endure;
But love in minds his various changes makes,
And clothes each object with the change he takes;
His light and shade o'er every view he throws,
And on each object what he feels bestows.

Fair was the morning, and the month was June,
When rose a lover—love awakens soon;
Brief his repose, yet much he dreamt the while
Of that day's meeting, and his Laura's smile;
Fancy and love that name assign'd to her,
Call'd Susan in the parish register;
And he no more was John,—his Laura gave
The name Orlando to her faithful slave.
Bright shone the glory of the rising day,
When the fond trav'ller took his favourite way;
He mounted gaily, felt his bosom light,
And all he saw was pleasing in his sight.
"Ye hours of expectation, quickly fly,
And bring on hours of blest reality,
When I shall Laura see, beside her stand,
Hear her sweet voice, and press her yielded hand."
First o'er a barren heath beside the coast,
Orlando rode, and joy began to boast.
"This neat low gorse," said he, "with golden bloom,
Delights each sense, is beauty, is perfume;
And this gay ling, with all its purple flowers,
A man at leisure might admire for hours;
This green-fringed cup-moss has a scarlet tip,
That yields to nothing but my Laura's lip;
And then how fine this herbage!—men may say
A heath is barren—nothing is so gay;
Barren or bare to call such charming scene,
Argues a mind possess'd by care and spleen."
Onward he went, and fiercer grew the heat,
Dust rose in clouds before the horse's feet;
For now he pass'd through lanes of burning sand,
Bounds to thin crops, or yet uncultured land,
Where the dark poppy flourish'd on the dry
And steril soil, and mock'd the thin set rye.
"How lovely this!" the rapt Orlando said,
"With what delight is labouring man repaid!
The very lane has sweets that all admire,
The rambling suckling and the vigorous brier;
See, wholesome wormwood grows beside the way,
Where, dew-press'd yet, the dog-rose bends the spray;
Fresh herbs the fields, fair shrubs the banks adorn,
And snow-white bloom falls flaky from the thorn;
No fostering hand they need, no sheltering wall,
They spring uncultured, and they bloom for all."

The lover rode, as hasty lovers ride,
And reach'd a common pasture wild and wide;
Small black-legg'd sheep devour with hunger keen
The meagre herbage, fleshless, lank, and lean;
Such o'er thy level turf, Newmarket, stray,
And there, with other Black-legs, find their prey.
He saw some scatter'd hovels; turf was piled
In square brown stacks, a prospect bleak and wild!
A mill, indeed, was in the centre found,
With short sear herbage withering all around;
A smith's black shed opposed a wright's long shop,
And join'd an inn where humble travellers stop.
"Ay, this is Nature," said the gentle squire;
"This ease, peace, pleasure—who would not admire?
With what delight these sturdy children play,
And joyful rustics at the close of day;
Sport follows labour, on this even space
Will soon commence the wrestling and the race;
Then will the village maidens leave their home,
And to the dance with buoyant spirits come;
No affectation in their looks is seen,
Nor know they what disguise or flattery mean;
Nor aught to move an envious pang they see,
Easy their service, and their love is free.
Thence early springs that love, it long endures,
And life's first comfort, while they live, ensures:
They the low roof and rustic comforts prize,
Nor cast on prouder mansions envying eyes.
Sometimes the news at yonder town they hear,
And learn what busier mortals feel and fear,
Secure themselves, although by tales amazed,
Of towns bombarded and of cities razed;
As if they doubted in their still retreat,
The very news that makes their quiet sweet,
And their days happy. Happier only knows
He on whom Laura her regard bestows."
On rode Orlando, counting all the while
The miles he pass'd, and every coming mile;
Like all attracted things, he quicker flies,
The place approaching where the attraction lies;
When next appear'd a dam'—so call the place,
Where lies a road confined in narrow space,
A work of labour, for on either side
Is level fen, a prospect wild and wide,
With dykes on either hand by Ocean's self supplied:

Far on the right the distant sea is seen,
And salt the springs that feed the march between;
Beneath an ancient bridge, the straiten'd flood
Rolls through its sloping banks of slimy mud;
Near it a sunken boat resists the tide,
That frets and hurries to th' opposing side;
The rushes sharp that on the borders grow,
Bend their brown flow'rets to the streams below,
Impure in all its course, in all its progress slow:
Here a grave Flora scarcely deigns to bloom,
Nor wears a rosy blush, nor sheds perfume;
The few dull flowers that o'er the place are spread,
Partake the nature of their fenny bed;
Here on its wiry stem, in rigid bloom,
Grows the salt lavender that lacks perfume;
Here the dwarf sallows creep, the septfoil harsh,
And the soft slimy mallow of the marsh;
Low on the ear the distant billows sound,
And just in view appears their stony bound;
No hedge nor tree conceals the glowing sun;
Birds, save a wat'ry tribe, the district shun,
Nor chirp among the reeds, where bitter waters run.*
"Various as beauteous, Nature, is thy face!"
Exclaim'd Orlando; "all that grows has grace;
All are appropriate,—bog, and marsh, and fen,
Are only poor to undiscerning men;
Here may the nice and curious eye explore
How Nature's hand adorns the rushy moor;
Here the rare moss in secret shade is found,
Here the sweet myrtle of the shaking ground;
Beauties are these that from the view retire,
But well repay th' attention they require;

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* The ditches of a fen so near the ocean are lined with irregular patches of a coarse and stained Laver; a muddy sediment rests on the Horse-tail and other perennial herbs, which in part conceal the shallowness of the stream; a fat-leaved, pale-flowering, Scurvy-grass appears early in the year; and the razor-edged Bullrush in the summer and autumn. The fen itself has a dark and saline herbage; there are Rushes, and Arrowhead; and, in a few patches, the flakes of the Cotton-grass are seen, but more commonly the Sea-aster, the dullest of that numerous but hardy genus: a Thrift, blue in flower, but withering, and remaining withered till the winter scatters it; the Saltwort, both simple and shrubby; a few kinds of grass changed by their soil and atmosphere, and low plants of two or three denominations, undistinguished in a general view of the scenery. Such is the vegetation of the fen when it is at a small distance from the ocean; and in this case there arise from it effluvia strong and peculiar, half saline half putrid, which would be considered by most people as offensive, and by some as dangerous; but there are others to whom singularity of taste, or association of ideas, has rendered it agreeable and pleasant.

For these, my Laura will her home forsake,
And all the pleasures they afford partake."
  Again the country was enclosed, a wide
And sandy road has banks on either side,
Where, lo! a hollow on the left appear'd,
And there a gipsy tribe their tent had rear'd;
'Twas open spread to catch the morning sun,
And they had now their early meal begun,
When two brown boys just left their grassy seat,
The early trav'ller with their prayers to greet;
While yet Orlando held his pence in hand,
He saw their sister on her duty stand;
Some twelve years old, demure, affected, sly,
Prepared the force of early powers to try;
Sudden a look of languor he descries,
And well-feign'd apprehension in her eyes;
Train'd, but yet savage, in her speaking face,
He mark'd the features of her vagrant race;
When a light laugh and roguish leer express'd
The vice implanted in her youthful breast.
Forth from the tent her elder brother came,
Who seem'd offended, yet forbore to blame
The young designer, but could only trace
The looks of pity in the trav'ller's face:
Within, the father, who, from fences nigh,
Had brought the fuel for the fire's supply,
Watch'd now the feeble blaze, and stood dejected by:
On ragged rug, just borrow'd from the bed,
And by the hand of coarse indulgence fed,
In dirty patchwork negligently dress'd,
Reclined the wife, an infant at her breast;
In her wild face some touch of grace remain'd
Of vigour palsied, and of beauty stain'd;
Her bloodshot eyes on her unheeding mate
Were wrathful turn'd, and seem'd her wants to state,
Cursing his tardy aid. Her mother, there,
With gipsy state, engross'd the only chair:
Solemn and dull her look; with such she stands,
And reads the milkmaid's fortune in her hands,
Tracing the lines of life; assumed through years,
Each feature now the steady falsehood wears:
With hard and savage eye she views the food,
And, grudging, pinches their intruding brood.
Last in the group, the worn out grandsire sits
Neglected, lost, and living but by fits;

Useless, despised, his worthless labours done,
And half protected by the vicious son,
Who half supports him. He, with heavy glance,
Views the young ruffians who around him dance;
And, by the sadness of his face, appears
To trace the progress of their future years:
Through what strange course of misery, vice, deceit,
Must wildly wander each unpractised cheat;
What shame and grief, what punishment and pain,
Sport of fierce passions, must each child sustain,
Ere they, like him, approach their latter end,
Without a hope, a comfort, or a friend!
But this Orlando felt not. "Rogues," said he,
"Doubtless they are, but merry rogues they be:
They wander round the land, and, be it true,
They break the laws—then let the laws pursue
The wanton idlers; for the life they live,
Acquit I cannot, but I can forgive."
This said, a portion from his purse was thrown,
And every heart seem'd happy like his own.
He hurried forth, for now the town was nigh,
"The happiest man of mortal men am I!"
Thou art! but change in every state is near,
(So, while the wretched hope, the bless'd may fear;)
"Say, where is Laura?"—"That her words must shew,"
A lass replied; "Read this, and thou shalt know!"—
"What, gone!—'Her friend insisted, forced to go;
'Is vex'd—was teazed—could not refuse her!'—No?
'But you can follow.'—Yes!—'The miles are few,
The way is pleasant—will you come?—Adieu!
Thy Laura!'—No; I feel I must resign
The pleasing hope; thou hadst been here, if mine:
A lady was it?—Was no brother there?
But why should I afflict me if there were?
'The way is pleasant'—What to me the way?
I cannot reach her till the close of day.
My dumb companion! Is it thus we speed?
Not I from grief, nor thou from toil art freed:
Still art thou doom'd to travel, and to pine
For my vexation.—What a fate is mine!"
"Gone to a friend, she tells me; I commend
Her purpose,—means she to a female friend?
By Heaven! I wish she suffer'd half the pain
Of hope protracted through the day in vain.
Shall I persist to see th' ungrateful maid?
Yes; I will see her, slight her, and upbraid.

What! In the very hour?—She knew the time,
And, doubtless, chose it to increase her crime."
Forth rode Orlando, by a river's side,
Inland and winding, smooth, and full, and wide,
That roll'd majestic on, in one soft flowing tide;
The bottom gravel, flowery were the banks,
Tall willows waving in their broken ranks;
The road, now near, now distant, winding led
By lovely meadows which the waters fed.
He pass'd the wayside inn, the village spire,
Nor stopp'd to gaze, to question, or admire;
On either side the rural mansions stood,
With hedgerow trees, and hills high crown'd with wood,
And many a devious stream, that reach'd the nobler flood.
"I hate these scenes!" Orlando angry cried,
"And these proud farmers!—Yes, I hate their pride:
See that sleek fellow, how he strides along,
Strong as an ox, and ignorant as strong.
Can yon close crops a single eye detain,
But his who counts the profits of the grain?
And these vile beans, with deleterious smell,
Where is their beauty?—Can a mortal tell?
These deep fat meadows I detest; it shocks
One's feelings, there to see the grazing ox
For slaughter fatted, as a lady's smile
Rejoices man, and means his death the while.
Lo! now the sons of labour every day
Employ'd in toil, and vex'd in every way:
Theirs is but mirth assumed, and they conceal,
In their affected joys, the ills they feel.
I hate these long green lanes. There 's nothing seen
In this vile country but eternal green.
Woods! waters! meadows! will they never end?—
'Tis a vile prospect—— Gone to see a friend!"
Still on he rode. A mansion fair and tall
Rose to his view,—the pride of Loddon-hall;
Spread o'er the park he saw the grazing steer,
The full fed steed, and herds of bounding deer.
On a clear stream the vivid sunbeams play'd
Through noble elms, and on the surface made
That moving picture,—chequer'd light and shade.
Th' attended children there indulged to stray,
Enjoy'd, and gave new beauty to the day;
Whose happy parents from their room were seen,
Pleased with the sportive idlers on the green.

"Well!" said Orlando, "and, for one so blest,
A thousand reasoning wretches are distress'd;
Nay, these, so seeming glad, are grieving like the rest.
Man is a cheat, and all but strive to hide
Their inward misery by their outward pride.
What do yon lofty gates and wall contain,
But fruitless means to soothe unconquer'd pain?
The parents read each infant daughter's smile,
Form'd to seduce, encouraged to beguile.
They view the boys, unconscious of their fate,
Sure to be tempted, sure to take the bait:
These will be Lauras — sad Orlandos these ——
There 's guilt and grief in all one hears and sees!"
Our trav'ller, lab'ring up a hill, look'd down
Upon a lively, busy, pleasant town;
All he beheld were there alert, alive, —
The busiest bees that ever stock'd a hive.
A pair were married, and the bells aloud
Proclaim'd their joy, and joyful seem'd the crowd.
And now, proceeding on his way, he spied,
Bound by strong ties, the bridegroom and the bride,
Each by some friends attended. Near they drew,
And spleen beheld them with prophetic view.
"Married! — Nay, mad!" Orlando cried, in scorn;
"Another wretch on this unlucky morn.
What is this foolish mirth — these idle joys?
Attempts to stifle doubt and fear by noise.
To me these robes, expressive of delight,
Foreshew distress, and only grief excite;
And, for these cheerful friends, will they behold
Their wailing brood in sickness, want, and cold;
And his proud look, and her soft languid air,
Will — but I spare you — go, unhappy pair!"
And now, approaching to the journey's end,
His anger fails, his thoughts to kindness tend.
He less offended feels, and rather fears t 'offend.
Now, gently rising, hope contends with doubt,
And casts a sunshine on the views without;
And still reviving joy and lingering gloom
Alternate empire o'er his soul assume;
Till, long perplex'd, he now began to find
The softer thoughts engross the settling mind.
He saw the mansion, and should quickly see
His Laura's self; and angry could he be?

No! — The resentment melted all away, —
"For this my grief a single smile will pay,"
Our trav'ller cried, "and why should it offend,
That one so good should have a pressing friend?
Grieve not, my heart, to find a favourite guest
Thy pride and boast! — Ye selfish sorrows, rest;
She will be kind, and I again be blest."
While gentler passions thus his bosom sway'd,
He reach'd the mansion, and he saw the maid, —
"My Laura!" — "My Orlando! This is kind;
In truth, I came persuaded, not inclined:
Our friend's amusement let us now pursue,
And I to-morrow will return with you."
Like man entranced, the happy lover stood, —
"As Laura wills — for she is kind and good:
Ever the truest, gentlest, fairest, best —
As Laura wills — I see her, and am blest."
Home went the lovers, through that busy place,
By Loddon-hall, the country's pride and grace;
By the rich meadows where the oxen fed,
Through the green vale that form'd the river's bed;
And, by unnumber'd cottages and farms,
That have, for musing minds, unnumber'd charms:
And how affected by the view of these
Was then Orlando — did they pain or please?
Nor pain nor pleasure could they yield, — and why?
The mind was fill'd — was happy — and the eye
Roved o'er the fleeting views, that but appear'd to die.
Alone, Orlando, on the morrow, paced
The well-known road. The gipsy tent he traced —
The dam high raised the ready dykes between —
The scatter'd hovels on the barren green —
The burning sand — the fields of thin set rye, —
Mock'd by the useless Flora blooming by —
And last, the heath, with all its various bloom,
And the close lanes that led the trav'ller home.
Then, could these scenes the former joys renew?
Or was there now dejection in the view?
Nor one nor other could they yield, — and why?
The mind was absent, and the vacant eye
Wander'd o'er viewless scenes, that but appear'd to die.

OBSERVATIONS

ON

FOREST SCENERY.

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BOOK I.

SECTION I.

It is no exaggerated praise to call a tree the grandest and most beautiful of all the productions of the earth. In the former of these epithets nothing contends with it; for we consider rocks and mountains as part of the earth itself. And though among inferior plants, shrubs, and flowers, there is great beauty; yet when we consider that these minuter productions are chiefly beautiful as individuals, and are not adapted to form the arrangement of composition in landscape, nor to receive the effects of light and shade, they must give place in point of beauty—of picturesque beauty at least, which we are here considering—to the form, and foliage, and ramification of the tree. Thus the splendid tints of the insect, however beautiful, must yield to the elegance and proportion of animals which range in a higher class.

With animal life I should not set the tree in competition. The shape, the different coloured fur, the varied and spirited attitudes, the character and motion, which strike us in the animal creation, are certainly beyond still life in its most pleasing appearance. I should only observe with regard to trees, that nature has been kinder to them in point of variety, than even to its living forms. Though every animal is distinguished from its fellow, by some little variation of colour, character, or shape; yet in all the larger parts, in the body and limbs, the resemblance is generally exact. In trees, it is just the reverse: the smaller parts, the spray, the leaves, the blossom, and the seed, are the same in all trees of the same kind: while the larger parts, from which the most beautiful varieties result, are wholly different. You never see two oaks with an equal number of limbs, the same kind of head, and twisted in the same form. However, as variety is not alone sufficient to give superiority to the tree, we give the preference, on the whole, to animal life.

We strongly suspect that Mr Gilpin's remark, as regards trees, appears true only because the variety of the larger parts of them visibly forces itself upon our attention, whilst the smaller parts, the spray, the leaves, the blossom, and the seed, are too minute for their varieties to be discernible, without an almost microscopical examination. But were such an examination applied, we are disposed to think that no two leaves of the creation would be found exactly alike. This observation is hardly necessary here, however; for so far as regards picturesque effect, Mr Gilpin is right: that which is not visible cannot possibly excite any emotion.

SECTION II.

Trees when young, like striplings, shoot into taper forms. There is a lightness and an airiness in them, which is pleasing; but they do not spread and receive their just proportions, till they have attained their full growth.

There is as much difference, too, in trees — I mean in trees of the same kind—in point of beauty, as there is in human figures. The limbs of some are set on awkwardly, their trunks are disproportioned, and their whole form is unpleasing. The same rules, which establish elegance in other objects, establish it in these. There must be the same harmony of parts, the same sweeping line, the same contrast, the same ease and freedom. A bough indeed may issue from the trunk at right angles, and yet elegantly, as it frequently does in the oak; but it must immediately form some contrasting sweep, or the junction will be awkward.

All forms that are unnatural, displease. A tree lopped into a maypole, as you generally see in the hedgerows of Surrey, and some other countries, is disgusting. Clipped yews, lime hedges, and pollards, are, for the same reason, disagreeable: and yet I have sometimes seen a pollard produce a good effect, when Nature has been suffered, for some years, to bring it again into form; but I never saw a good effect produced by a pollard, on which some single stem was left to grow into a tree. The stem is of a different growth: it is disproportioned, and always unites awkwardly with the trunk.

We have had particular occasion to notice the bad effects of this practice of lopping trees in France, where the trees in hedgerows, and in avenues, are clipped to the very bone. It would be curious, and we suspect it would be somewhat difficult, to dissect out those ancient feelings which have induced a whole nation to make a war to the knife against Nature, as if she were some hydra, or other monster, for the extermination of which every one was called on to contribute his aid. We remember another evil too. When we happened to be travelling in that country in the beginning of August, we found, to our astonishment, that a great proportion of the trees were altogether stripped of their leaves; and the mystery was soon explained to us, by our frequently seeing, as we drove along, the shepherds, and those who took charge of swine, occupied in pulling off the leaves, and beating them down with poles, for the use of the animals, who ran greedily towards the food thus provided for them. This is to be attributed to the continuity of grain cultivation over the surface of France, where, except in the vicinity of the sea, on the northern coast, or in such inland provinces as the Limousin and Alsace, any thing like a stretch of pasturage, or fields regularly laid down for that purpose, are never seen.

Certainly clipped yews and lime hedges are disagreeable when out of place, but they are well in harmony with the ancient garden of some baronial castle, where every thing symmetrical is in keeping, and intimately associated with the recollections of our ancestors, who planted and who trimmed them, and who walked along their formal alleys in courtly guise, choosing the sun or the shade, as best fitted the humour of the fair and peerless ladies of their love, upon whose smiles they lived, regardless of all other suns. Think of the rich pictures of Watteau !

Not only all forms that are unnatural displease, but even natural forms, when they bear a resemblance to art, unless indeed these forms are characteristic of the species. A cypress pleases in a conic form ; but an oak or an elm trimmed into that appearance, would disgust. In the cypress, Nature adapts the spray and branches to the form of the tree. In the oak and elm, the spray and branches form a different character.

Lightness, also, is a characteristic of beauty in a tree : for though there are beautiful trees of a heavy, as well as of a light form, yet their extremities must in some parts be separated, and hang with a degree of looseness from the fullness of the foliage, which occupies the middle of the tree, or the whole will only be a large bush. From position indeed, and contrast, heaviness, though in itself a deformity, may be of singular use in the composition both of natural and of artificial landscape.

A tree also must be *well balanced* to be beautiful. It may have form, and it may have lightness, and yet lose all its effect by wanting a proper poise. The bole must appear to support the branches. We do not desire to see it supporting its burden with the perpendicular firmness of a column. An easy sweep is always agreeable ; but at the same time it should not be such a sweep as discovers one side plainly overbalanced.

On bleak sea-coasts, trees generally take an unbalanced form : and indeed, in general, some foreign cause must operate to occasion it ; for Nature, working freely, is as much inclined to balance a tree upon its trunk, as an animal upon its legs.

And yet, in some circumstances, I have seen beauty arise even from an unbalanced tree ; but it must arise from some peculiar situation, which gives it a local propriety. A tree, for instance, hanging from a rock, though totally unpoised, may be beautiful ; or it may have a good effect when we see it bending over a road, because it corresponds with its peculiar situation. We do not in these cases admire it as a tree, but as the adjunct of an effect, the beauty of which does not give the eye leisure to attend to the deformity of the instrument through which the effect is produced.

Without these requisites, therefore, —form, lightness, and a proper balance,— no tree can have that species of beauty which we call picturesque.

SECTION III.

Besides these requisites of beauty in a tree, there are other things of an adventitious kind, which often add great beauty to it. And here I cannot help lamenting the capricious nature of picturesque ideas.* In many instances they run counter to utility, and in nothing more than in the adventitious beauties ascribed to trees. Many of these are derived from the injuries the tree receives, or the diseases to which it is subject. Mr Lawson, a naturalist of the last age, thus enumerates them: "How many forests and woods," says he, "have we, wherein you shall have, for one lively, thriving tree, four, nay sometimes twenty-four, evil thriving, rotten, and dying trees: what rottenness! what hollowness! what dead arms, withered tops, curtailed trunks! what loads of mosses, drooping boughs, and dying branches, shall you see every where!"†

Now all these maladies, which our distressed naturalist bemoans with so much feeling, are often capital sources of picturesque beauty, both in the wild scenes of nature, and in artificial landscape.

What is more beautiful, for instance, on a rugged foreground, than an old tree with a hollow trunk? or with a dead arm, a drooping bough, or a dying branch? all which phrases, I apprehend, are nearly synonymous.

From the withered top also great use and beauty may result in the composition of landscape, when we wish to break the regularity of some continued line which we would not entirely hide.

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* We see here how our author becomes bewildered, from lack of that light which afterwards so happily dawned on Mr Alison.

† See Lawson's *Orchard*.

By the curtailed trunk, I suppose, Mr Lawson means a tree, whose principal stem has been shattered by winds, or some other accident, while the lower part of it is left in vigour. This is also a beautiful circumstance, and its application equally useful in landscape. The withered top just breaks the lines of an eminence: the curtailed trunk discovers the whole; while the lateral branches, which are vigorous and healthy in both, hide any part of the lower landscape, which, wanting variety, is better veiled.

For the use and beauty of the withered top and curtailed trunk, we need only appeal to the works of Salvator Rosa, in many of which we find them of great use. Salvator had often occasion for an object on his foregrounds, as large as the trunk of a tree; when the whole tree together, in its full state of grandeur, would have been an encumbrance to him. A young tree, or a bush, might probably have served his purpose with regard to composition; but such dwarfs and striplings could not have preserved the dignity of his subject, like the ruins of a noble tree. These splendid remnants of decaying grandeur speak to the imagination in a style of eloquence, which the stripling cannot reach: they record the history of some storm, some blast of lightning, or other great event, which transfers its grand ideas to the landscape; and in the representation of elevated subjects assists the sublime.

Whether these maladies in trees ever produce beauty in adorned Nature, I much doubt. Kent was hardy enough even to plant a withered tree; but the error was too glaring for imitation. Objects in every mode of composition should harmonize; and all we venture to assert, is, that these maladies are then only sources of beauty, either in the wild scenes of Nature or in artificial landscape, when they are the appendages of some particular mode of composition.

We have never planted a withered tree, as Kent is said to have done, but we have often manufactured one. Where pleasure walks have been so confined by trees, that the romantic river, or the wide spread landscape, has been hidden from the view, instead of cutting open a formal breach in the wood, resembling the port-hole in a ship's side, or an embrasure in a wall, we have often found the advantage of leaving some tree most fit for our purpose, and breaking it rudely down with the hatchet into a picturesque form. By this means we have not unfrequently succeeded in forming very beautiful foregrounds to the pictures we created, and even the attempts of Nature to reproduce the shorn limbs, often caused very happy accidental effects.

The last and most beautiful of those diseases which Mr Lawson ascribes to trees, is moss. This, it is true, is one of Nature's minutiæ, and in painting, touches not the great parts, composition and effect. Nor is it of use in mere drawing. But in coloured landscape, it is surely a very beautiful object of imitation. The variety of mosses, — the green, which tinges the trunk of the beech; the brimstone coloured and black, which stain the oak; and the yellow, which is frequently found on the elm and ash, are among the most beautiful of those tints which embellish the bark of trees.

I have often stood with admiration before an old forest oak, examining the various tints which have enriched its furrowed stem. The genuine bark of an oak is of an ash-colour, though it is difficult to distinguish any part of it from the mosses that overspread it; for no oak, I suppose, was ever without a greater or a less proportion of these picturesque appendages. The lower parts, about the roots, are often possessed by that green velvet moss, which in a still greater degree commonly occupies the bole of the beech; though the beauty and brilliancy of it lose much, when in decay. As the trunk rises, you see the brimstone colour taking possession in patches. Of this there are two principal kinds: a smooth sort, which spreads like a scurf over the bark; and a rougher sort, which hangs in little rich knots and fringes. I call it a brimstone hue, by way of general distinction: but it sometimes inclines to an olive; and sometimes to a light green. Intermixed with these mosses you often find a species perfectly white. Before I was acquainted with it, I have sometimes thought the tree white-washed.

Here and there, a touch of it gives a lustre to the trunk, and has its effect: yet, on the whole, it is a nuisance; for as it generally begins to thrive when the other mosses begin to wither, (as if the decaying bark were its proper nutriment,) it is rarely accompanied with any of the more beautiful species of its kind; and when thus unsupported, it always disgusts. This white moss, by the way, is esteemed a certain mark of age; and when it prevails in any degree, is a clear indication that the vigour of the tree is declining. We find also another species of moss, of a dark brown colour, inclining nearly to black; another of an ashy colour; and another of a dingy yellow. We may observe also touches of red; and sometimes, but rarely, a bright yellow, which is like a gleam of sunshine; and in many trees you will see one species growing upon another; the knotted brimstone-coloured fringe clinging to a lighter species; or the black softening into red. Strictly speaking, many of these excrescences, which I have mentioned under the general name of mosses, should have been distinguished by other names. All those, particularly, which cling close to the bark of trees, and have a leprous, scabby appearance, are classed, I believe, by botanists, under the name of lichens: others are called liver-worts. But all these excrescences, under whatever names distinguished, add a great richness to trees; and when they are blended harmoniously, as is generally the case, the rough and furrowed trunk of an old oak, adorned with these pleasing appendages, is an object which will long detain the picturesque eye.

We have had frequent occasion to notice a long, dark greenish coloured moss, peculiar to the fir woods of the Highlands. It covers the horizontal branches, and hangs down from them perhaps six or seven inches in length, giving them a wild and wizzard appearance, especially where it happens to be associated with the gray decayed boughs. When plucked, an imaginative fancy might suppose it to be the hair of some river god. The white moss is not always the sign of decay in trees: we have seen it growing in abundance on trees which were thriving with the greatest luxuriance. In such instances it seemed to be fostered by the closeness of those spots where the trees grew, and the stagnation of the damp air beneath their thick canopy overhead.

But besides the appearance of moss upon the trunks of trees, it creeps among the branches, and sometimes takes possession not only of the larger boughs, but even of the smaller spray. In winter this has often a fine effect, when the whole tree, turned into a beautiful piece of straw-coloured coral, appears against a dark wood, or some other back-ground, which gives it relief. In a strong sunshine, too, it is beautiful; when the light straw-coloured tints contrast with the shadows formed by the twisting of the boughs; which are sometimes still farther deepened by some of the darker mosses.

Thus the maladies of trees are greatly subservient to the uses of the pencil. The foliage is the dress, and these are the ornaments. Even the poet will sometimes deign to array his tree with these picturesque ornaments. I am always glad of his authority, when I can have it: and I have seen a poetical oak garnished in a way, that the painter might copy from. In general, however, the poet is not, like the painter, uniform in his admiration of these pleasing appendages. If at one time he admires them with the painter, and ranks them among the picturesque beauties of Nature; at another he sides with the woodman, and brushes them away. Nay, I have known him conjure up some mighty agent, as guardian of his woods, who cries out,

> ——From Jove I am the Power
> Of this fair wood, and live in oaken bower.
> I nurse my saplings tall; and cleanse their rind
> From vegetating filth of every kind.
> And all my plants I save from nightly ill
> Of noisome winds, and blasting vapours chill.

Besides Mr Lawson's catalogue of maladies we might enumerate others, which are equally the sources of beauty. The blasted tree has often a fine effect both in natural and in artificial landscape. In some scenes it is almost essential. When the dreary heath is spread before the eye, and ideas of wildness and desolation are required, what more suitable accompaniment can be imagined, than the blasted oak, ragged, scathed, and leafless, shooting its peeled white branches athwart the gathering blackness of some rising storm?

———As when Heaven's fire
Hath scathed the forest oak, or mountain pine,
With singed top its stately growth, though bare,
Stands on the blasted heath.——

Ivy is another mischief incident to trees, which has a good effect. It gives great richness to an old trunk, both by its stem, which often winds round it in thick, hairy, irregular volumes; and by its leaf, which either decks the furrowed bark, or creeps among the branches, or hangs carelessly from them. In all these circumstances it unites with the mosses, and other furniture of the tree, in adorning and enriching it. But when it gathers into a heavy body, which is often the case, it becomes rather a deformity. In summer, indeed, its bushiness is lost in the foliage of the tree ; but in winter, naked branches make a disagreeable appearance staring from a thick bush. And yet in autumn I have seen a beautiful contrast between a bush of ivy, which had completely invested the head of a pollard oak, and the dark brown tint of the withered leaves, which still held possession of the branches. But this was a mere accidental effect ; for you may see many pollard oaks with withered leaves, and covered with ivy ; and yet not see the tints so happily arranged as to produce an effect.

In the spring also we sometimes have a pleasing appearance of a similar kind. About the end of April, when the foliage of the oak is just beginning to expand, its varied tints are often delightfully contrasted with the deep green of an ivy bush, which has overspread the body and larger limbs of the tree ; and the contrast has been still more beautiful, when the limbs are covered, as we sometimes see them, with tufts of brimstone-coloured moss.

We have some doubts whether the accusations as to the felonies committed by ivy are not very much exaggerated, if not altogether unjust. We have remarked that this creeper has a greater natural inclination to attach itself to bare or dead trees, than to those which are in full vigour. This we have ascertained in the course of planting ivy. The effect, therefore, may perhaps be mistaken for the cause ; and thus, where the increasing bareness of a dying tree may the more readily induce the ivy to ascend its trunk, it may very unfairly be accused of being the murderer. But however this may be, a tree is sometimes well sacrificed to ivy where timber abounds. Nor is it always necessary to make a sacrifice of a tree for this purpose. Trees often die from causes which we cannot divine, and there is no one who is master of extensive woods who does not meet with many such instances of unexpected and unaccountable mortality. Of such dead individuals we have often availed ourselves, and by planting ivy at their roots, we have converted them into more beautiful objects than they were when arrayed in all their own natural foliage. The variety called the Irish ivy, now so generally known, is that which does its work in the shortest time. We have known it cover a large square tower to the very top in the course of a few years, and as the leaf is much larger than that of the common ivy, its effect in general is much more massive, and more rich, because it hangs looser. But we have seen situations where the common ivy, with its distinct, well defined leaf, and its close adhesion, gave us more pleasure to look upon. The palmated ivy, too, has its own peculiar beauty, as has also the variegated ivy.

All these plants are parasitical, as the botanist expressively calls them. The tribes of mosses, lichens, and liver-worts, make no pretence to independence. They are absolute retainers. Not one of them gets his own livelihood, nor takes the least step towards it. The ivy, indeed, is less dependent. He has a root of his own, and draws nourishment from the ground; but his character is misrepresented, if his little feelers have not other purposes than merely that of shewing an attachment to his potent neighbour. Shakespeare roundly asserts, he makes a property of him:

——— He was
The ivy, which had hid my princely trunk,
And suck'd my verdure out ——

As these feelers equally attach themselves as numerously, and with like tenacity, to a wall, or to a bare granite rock, as to a tree, we cannot suppose that Nature has intended them for any other purpose than to enable the plant to secure its adhesion to whatever supports it. That the plant will throw out roots wherever soil, or any such substance, occurs, into which it can project them, is well known.

Besides this parasitical tribe, the painter admires another class of humble plants, which live entirely on their own means; yet, spreading out their little tendrils, beg merely the protection of the great, whom, if they encumber, as they certainly do in a degree, they enrich with a variety of beautiful flowers and scarlet berries. Many of these, though classed among weeds, have great beauty. Among them, the black and white brionies are distinguished. The berries also of many of these little plants, are variously coloured in the different states of their growth, yellow, red, and orange. All these rich touches, however small, produce their effect. There is another elegant climber, called traveller's joy, which produces indeed no berries; but its feathered seeds are ornamental. The wild honeysuckle also comes within this class; and though in winding its spiral coil it may compress the young tree too tightly, and in some degree injure its circulation; yet it fully compensates the injury by the beauty and fragrancy of its flowers:

> With clasping tendrils it invests the branch,
> Else unadorn'd, with many a gay festoon,
> And fragrant chaplet; recompensing well
> The strength it borrows with the grace it lends.

We cannot acquit the woodbine (*woodbind*) so readily as we are disposed to do the ivy. Like some cruel minion of vice, he gracefully insinuates himself into the society of the young stripling oak, and gradually obtaining his confidence, and ultimately an unlimited control over him, he strangles him to death amidst garlands of flowers and gales of perfume. He is the boa constrictor of sylvan life, and no one can ramble through the forest wilderness without beholding numerous instances of his murderous career. But severe as this accusation against woodbine may be, we are yet disposed to agree with Mr Gilpin, that the beauty and fragrancy of its flowers fully compensate for all the murders it commits. How often, in our forest wanderings, have our delighted senses made us aware of the proximity of this most grateful inhabitant of the wild! How many delicious moments have been wasted in our endeavours to detect the place of its concealment! and when, at last, to our infinite joy, we have detected its retreat, how fairy-like have we found the abode it had selected, and how exquisitely delicious the mixture of sweets with which it had associated itself!

Under warm suns, where vines are the offspring of Nature, nothing can be more beautiful than the forest tree, adorned with their twisting branches, hanging from bough to bough, and laden with fruit,—

> ——the clusters clear
> Half through the foliage seen——

We have had occasion to see vines in all their beauty, in Italy. It is well known that all vegetable productions are found best, not in that latitude where Nature spontaneously produces them best, but in a latitude somewhat colder, where they may be raised by the industry of man. There it is that science comes into action, and works its wonderful effects, whilst in the warmer country Nature is left to do the whole. Thus it is that we have better gardens in Scotland than in England—better farmers in Britain than in France—and better wines in France than in Italy. But the superior mode of cultivating the vine in France for wine, annihilates its beauty. A vineyard seen at a distance is like a turnip field; and when seen close at hand, it is like a field planted with rows of raspberry bushes. How different is the plant, when so treated, from those which are permitted to ramble all over our picturesque, clean looking cottages, in the south of England, where every man, in the language of Scripture, literally "sits under his vine." In Italy, the Florentine dominions, and especially the rich *Val d'Arno*, exhibit the vine in its best state of Italian cultivation. But although its growth is there strictly attended to, and duly restrained, it is never cut down to the humble measure of stature to which it is restricted in France, but it is married to the elm, mulberry, or other trees, rows of which line the roads and subdivide the enclosures. These trees are generally shortened, as are also the branches which spring from the truncated top, so that they present something of the appearance of huge candelabra, and when seen without their leaves in winter, they are any thing but picturesque. But the long tendrils of the vines are led across from one tree to another, so that when the whole of them are in leaf, and in fruit, nothing can be more beautiful than the festoons they form, weighed down as they are by the heavy purple bunches which they sustain. In the Neapolitan states, where less care is bestowed, we have seen the grapes hanging in the tops of the tallest poplars, to which the aspiring vines had climbed; and we well remember the direful effects of a sudden hurricane, which once overtook us on the road between Salerno and Pompeii. It came on in an instant, like the blast from some enormous bellows, and without giving us the least warning. So terrible was its force, that we were compelled to stop under the shelter of a house by the wayside, lest the open carriage we travelled in, and the four horses that drew it, should have been blown over; and whilst we remained there, the very building seemed to shake, and the long row of tall poplars that bordered the way to windward, was bowed flat across the road, so that no carriage could have passed without certain destruction. In less than half an hour the hurricane went, as it came, in an instant; and as we pursued our way, we found the surface of the road covered with grapes, as if it had just received a new coat of gravel.

Among the most beautiful appendages of this hanging kind, which we have in England, is the hop. In cultivation it is disagreeable: but in its rude natural state, twisting carelessly round the branches of trees, I know not whether it is not as beautiful as the vine. Its leaf is similar; and though the bunches of hop, beautiful as they are, and fragrant, are not equal to the clusters of the vine; yet it is a more accommodating plant, hangs more loosely, and is less extravagant in its growth.

In artificial landscape, indeed, where the subject is sublime, these appendages are of little value. Such trifling ornaments the scene rejects. The rough oak, in the dignity of its simple form, adorns the foreground better. But in festive, or Bacchanalian subjects, (if such subjects are ever proper for description,) when the sportive nymphs and satyrs take their repose at noon, or gambol in the shade of evening, nothing can more beautifully adorn their retreat, or more characteristically mark it, than these pendent plants, particularly the mantling vine, hanging, as I have here described it, in rich festoons from bough to bough.

The rooting also of trees is a circumstance on which their beauty greatly depends. I know not whether it is reckoned among the maladies of a tree, to heave his root above the soil. Old trees generally do. But whether it be a malady or not, it is certainly very picturesque. The more they raise the ground around them, and the greater number of radical knobs they heave up, the firmer they seem to establish their footing upon the earth, and the more dignity they assume. An *old tree*, rising tamely from a *smooth surface*, (as we often find it covered with earth in artificial ground,) loses half its effect; it does not appear as the lord of the soil, but to be stuck into it; and would have a still worse effect on canvass than it has in nature.

Pliny gives us an account of the roots of certain ancient oaks in the Hercynian forest, which appears rather extravagant; but which I can easily conceive may be true. These roots, he says, heave the ground upwards, in many places, into lofty mounts; and in other parts, where the earth does not follow them, the bare roots rise as high as the lower branches, and twisting round, form, in many places, portals so wide that man and horse may ride upright through them.* This indeed is somewhat higher than picturesque beauty requires: it borders rather on the fantastic. In general, however, the higher the roots are, the more picturesque they appear.

To the adventitious beauties of trees, we may add their susceptibility of motion, which is capable at least of being a considerable source of beauty. The waving heads of some, and the undulation of others, give a continual variety to their forms. In Nature the motion of trees is certainly a circumstance of great beauty. Shakespeare formerly made the observation:

——Things in motion sooner catch the eye,
Than what stirs not——

To the painter also the moving tree affords often a piece of useful machinery, when he wishes to express the agitation of air. In this light it may even be considered as an objection to trees of firmer branches, as the oak, that their resistance to every breath of air deprives them, at least, of one source of beauty, and subjects them to be sooner *gotten by heart*, if I may so phrase it, than other trees, which, yielding to the pressure, are every instant assuming new modifications.

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* *Nat. Hist.* Book xvi. chap. 2.

We have seen a picture by Gasper Poussin, in which the violence of a storm and hurricane is so admirably expressed by the bending of the trees, and the crouching, and in some cases the prostrate positions of the figures, as almost to lead us to fancy, whilst we looked on it, that we heard the noise of the wind among the vexed and tortured branches.

From the motion of the tree, we have also the pleasing circumstance of the chequered shade, formed under it by the dancing of the sunbeams among its playing leaves. This circumstance, though not so much calculated for picturesque use, (as its beauty arises chiefly from its motion) is yet very amusing in nature; and may also be introduced in painting, when the tree is at rest. But it is one of those circumstances which requires a very artful pencil. In its very nature it opposes the grand principle of massing light and shade. However, if it be brought in properly, and not suffered to glare, it may have its beauty. But whatever becomes of this circumstance in painting, it is very capable of being pleasingly wrought up in poetry:

> The chequer'd earth seems restless as a flood
> Brush'd by the winds. So sportive is the light,
> Shot through the boughs, it dances as they dance,
> Shadow and sunshine intermingling quick,
> And dark'ning and enlightening (as the leaves
> Play wanton) every part———

This effect is more than amusing,—it is exquisitely beautiful, and only to be surpassed by the wonderful brilliancy produced by the same circumstance when the obtrusive rays fall on the surface of water, and particularly of gently rippling water. The effect of a ray of moonlight so admitted, as it were by stealth, is even yet more glorious, whether the field of its reception be the shaven turf, the level road, or the glassy stream, and this of course arises from the superior depth of the shadow to which it is opposed. We agree with Mr Gilpin, that the attempt to introduce such effects in painting is very hazardous, and rarely successful.

SECTION IV.

Having thus examined trees in a general view, I shall now particularize, and endeavour to explain the beauties and defects of their several kinds, as they regard landscape. I shall first consider them as individuals; and afterwards in composition.

Trees range under two general heads,—deciduous and evergreen. In this order I shall take them, confining my remarks to those only of both kinds which are of English growth, whether native or naturalized.

Among deciduous trees, the oak presents itself first. It is a happiness to the lovers of the picturesque, that this noble plant is as useful as it is beautiful. From the utility of the oak, they derive this advantage, that it is every where found. In the choice indeed of its soil it is rather delicate. For though it is rather undistinguishing, during its early growth, while its horizontal fibres straggle about the surface of the earth; yet when its tap-root begins to enter the depths of the soil, perhaps no tree is nicer in its discriminations. If its constitution be not suited here, it may multiply its progeny indeed, and produce a thriving copse; but the puny race will never rise to lordly dignity in the forest, nor furnish navies to command the ocean.

Old Evelyn says of the oak, "To enumerate now the incomparable uses of this wood were needless: but so precious was the esteem of it, that, of old, there was an express law among the twelve tables concerning the very gathering of the very acorns, though they should be found fallen into another man's ground. The land and the sea do sufficiently speak for the improvement of this excellent material; houses and ships, cities and navies, are built with it; and there is a kind of it so tough, and extremely compact, that our sharpest tools will hardly enter it, as scarcely the very fire itself, in which it consumes but slowly, as seeming to partake of a *ferruginous* and *metallin* shining nature, proper for sundry robust uses. That which is twined and a little wreathed (easily to be discerned by the texture of the bark) is best to support burthens, for posts, columns, summers, &c. for all which our English oak is infinitely preferable to the French, which is nothing so useful, nor comparably so strong; insomuch as I have frequently admired at the sudden failing of most goodly timber to the eye, which being employed to these uses, does many times most dangerously flie in sunder, as wanting that native spring and toughness which our English oak is endued withal. For shingles, pales, lathes, coopers' ware, clap-board, &c. the smallest and straightest is best; discovered likewise by the upright tenor of the bark, as being the most proper for cleaving. The knottiest for waterworks, piles, and the like, because 'twill drive best, and last longest. Were planting of these woods more in use, we should banish our hoops of hasel, &c.; for those of good oak, which being made of the youngest shoots, are exceeding tough and strong; one of them being of ground oak, will outlast six of the best ash. The smaller truncheons and spray make billet, bavine, and coals; and the very bark is of price with the tanner and dyer, to whom the very saw-dust is of use, as are the ashes and lee to cure the roapishness of wine. The ground-oak, while young, is used for poles, cudgels, and walking-staffs.

" Although oaks will grow tolerably in most grounds, yet do they generally affect the sound, black, deep, and fast mould, rather warm than over wet and cold, and a little rising; for this produces the firmest timber. But to discourage none, oaks prosper exceedingly even in gravel, and moist clays, which most other trees abhor; yea, even the coldest clay grounds that will hardly graze. I have read, that there grow oaks (some of which have contained ten loads a-piece) out of the very walls of Silcester, in Hantshire, which seem to strike root in the very stones. It is indeed observed, that oaks which grow in rough stony grounds, and obstinate clays, are long before they come to any considerable stature; for such places, and all sort of clay, is but a stepmother to trees; but in time they afford the most excellent timber, having stood long, and got good rooting. The same may be affirmed of the lightest sands, which produce a smoother grained timber, of all other the most useful for the joiner."

Mr Sang, in his *Planter's Kalendar*, says, that the oak " will grow, and even become timber, in soils of very opposite natures. It thrives best, however, in strong deep loam, incumbent on gravel or dry rock; but in all soils in which there is a considerable proportion of loam, it will thrive in a greater or less degree. In low situations, where the soil is deep and moist, it grows rapidly, and attains to a great size; but in such places, it is found to decay sooner than it does in a more elevated situation, with a drier soil. In light soils of little depth, it grows slowly, but firm in texture; and the timber, though smaller in size, acquires a state of maturity sooner than that grown on more cool and retentive soils. In deep, cool sand, it will root firmly, and arrive at a great size. In clay, incumbent on till, to which all other trees, excepting the beech and the sycamore, have an aversion, the oak will grow and produce useful timber." Our own experience teaches us to corroborate Mr Sang's opinion as to the variety of soil in which the oak may be seen to thrive. As one example, we find it growing vigorously on the banks of the river Findhorn, in every possible variety of soil, and equally well on soil superincumbent on the stratified and on the primitive rocks. It roots itself in the very face of the gneiss and granite precipices, whence it shoots forth, in the wildest and most picturesque forms, over the roaring rapids, or deep abysses of the romantic stream; and every now and then we see, that the slow, but certain operation of the growth of its roots, within the fissures of the rock, detaches huge masses of it, and hurls them into the gulf below.

The particular and most valued qualities of the oak, are *hardness* and *toughness*. Shakespeare uses two epithets to express these qualities, which are perhaps stronger than any we can find:

> Thou rather with thy sharp and sulph'rous bolt
> Split'st the *unwedgeable* and *gnarled* oak,
> Than the soft myrtle —

Many kinds of wood are *harder*, as box and ebony; many kinds are *tougher*, as yew and ash; but it is supposed that no species of wood, at least no species of timber, is possessed of both these qualities together in so great a degree as British oak. Almost all arts and manufactures are indebted to it; but in ship-building, and bearing burdens, its elasticity and strength are applied to most advantage. I mention these mechanic uses, only because some of its chief beauties are connected with them. Thus, it is not the erect, stately tree, that is always the most useful in ship-building; but more often the crooked one, forming short turns and elbows, which the shipwrights and carpenters commonly call *knee-timber.* This, too, is generally the most picturesque. Nor is it the straight, tall stem, whose fibres run in parallel lines, that is the most useful in bearing burdens; but that whose sinews are twisted, and spirally combined. This, too, is the most picturesque. Trees under these circumstances, generally take the most pleasing forms.

Now the oak perhaps acquires the different modes of growth from the different strata through which it passes. In deep rich soils, where the root meets no obstruction, the stem, we suppose, grows stately and erect; but when the root meets with a rocky stratum, a hard and gravelly bed, or any other difficulty, through which it is obliged, in a zigzag course, to pick its way, and struggle for a passage, the sympathetic stem, feeling every motion, pursues the same indirect course above which the root does below; and thus the sturdy plant, through the means of these subterraneous encounters and hardy conflicts, assumes form and character, and becomes, in a due course of centuries, a picturesque tree.

Virgil has given us the picture of an oak, in which its principal characteristics are well touched.

> Esculus imprimis, quæ quantum vertice ad auras
> Æthereas, tantum radice in Tartara tendit.
> Ergo non hiemes illam, non flabra, neque imbres
> Convellunt; immota manet, multosque per annos
> Multa virûm volvens durando secula vincit.
> Tum fortes late ramos, et brachia tendens
> Huc illuc, media ipsa ingentem sustenet umbram.*

I shall not enter into a criticism on the word *esculus*, which cannot on any good authority, I think, signify the beech; and Pliny's authority, which I insert below, † may be decisive in favour of its being the oak. But, were it not so, Virgil's description is so strongly marked with the characters of the oak, that it seems to put the matter out of dispute; and I introduce the quotation, merely to bring together, in few words, the most obvious qualities of this noble plant, in one point of view.

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* Georg. II. 290.

† Pliny, speaking of the different kinds of trees which were dedicated to different deities, tells us, Jovi esculus, Apolloni laurus, &c. lib. xii. c. I. Now we know that the oak was Jupiter's tree. On this point I need only quote Phædrus:

> Olim quas vellent esse in tutela sua
> Divi legerunt arbores; quercus Jovi,
> Et myrtus Veneri placuit——

The first characteristic which Virgil mentions, is its firmness; or the power and strength with which it takes hold of the ground, driving its taproot, in the poet's language, even into the infernal regions. No tree resists the blast so steadily. We seldom see the oak, like other trees, take a twisted form from the winds. *Media ipsa ingentem sustinet umbram;* that is, I apprehend, it preserves its balance, which we have seen is one of the grand picturesque beauties of every tree. The oak, no doubt, like other trees, shrinks from the sea air. But this indicates no weakness. The sea air, like a pestilential disease, attacks the strongest constitutions.

The taproot of the oak strikes so deep, that it has actually been traced downwards to a depth nearly equal to the height of the tree itself. The lateral roots do not run in so shallow and horizontal a manner as those of the ash and other trees, but perhaps the roots of very few trees range wider than those of the oak.

A second characteristic of the oak, of which Virgil takes notice, is the stoutness of its limbs, its *fortes ramos.* We know no tree, except perhaps the cedar of Lebanon, so remarkable in this respect. The limbs of most trees spring from the trunk. In the oak they may be rather said to divide from it; for they generally carry with them a great share of the substance of the stem. You hardly know which is stem, and which is branch; and towards the top, the stem is entirely lost in the branches. This gives particular propriety to the epithet *fortes* in characterizing the branches of the oak; and hence its sinewy

Pliny, also, in another place, lib. xvi. c. 6. plainly distinguishes between the *fagus*, and the *esculus*, — "Fagi glans triangula cute includitur. Folium tenue, populo simile, celerrime flavescens, &c. Glandem, quæ proprie intelligitur, ferunt rober, quercus, esculus. Continetur hispido calyce. Folia, sinuosa lateribus; nec, cum cadunt, flavescentia, ut fagi. Glans optima in quercu, et grandissima; mox esculo." From this quotation, it is plain that Pliny considers the *esculus* as a variety of the oak.

elbows are of such peculiar use in ship-building. Whoever therefore does not mark the *fortes ramos* of the oak, might as well, in painting a Hercules, omit his muscles. But I speak only of the hardy veterans of the forest. In the effeminate nurslings of the grove we have not this appearance. There the tree is all stem, drawn up into height. When we characterize a tree, we consider it in its natural state, insulated, and without any lateral pressure. In a forest, trees naturally grow in that manner. The seniors depress all the juniors that attempt to rise near them. But in a *planted* grove, all grow up together; and none can exert any power over another.

There are exceptions to this general remark. The stem of the oak is, no doubt, naturally short; and, if left to itself, in situations where it has ample room, it will feather to the ground. But Mr Marsham mentions an oak in the Earl of Powis's park, near Ludlow, which, in 1757, measured, at five feet from the ground, sixteen feet three inches in girth, whilst its stem ran up, quite straight and clear of arms, to the height of sixty feet.

The next characteristic of the oak, taken notice of by the poet, is the *twisting* of its branches: *brachia tendit huc illuc.* Examine the ash, the elm, the beech, or almost any other tree, and you may observe, in what direct and straight lines the branches in each shoot from the stem. Whereas the limbs of an oak are continually twisting *huc illuc*, in various contortions; and, like the course of a river, sport and play in every possible direction; sometimes in long reaches, and sometimes in shorter elbows. There is not a characteristic more peculiar to the oak than this.

The oldest oaks we know of have generally short stems, throwing out, at six, eight, ten, or twelve feet high, large horizontal arms, thickly set with crooked branches, terminating in clubbed, abrupt twigs, and closely covered with smooth glossy leaves, forming the richest foliage, irregularly swelling into the boldest outline we know of in vegetable nature; nor does the vegetable kingdom contain any thing which, both from its historical and poetical associations, fills our mind with higher emotions of beauty and sublimity than a mighty oak, in the full vigour of its prime, and in all the perfection of its well furnished head.

Another peculiarity of which Virgil takes notice in the oak, is its expansive spread:

> Media ipsa ingentem sustinet umbram.

By *ingentem umbram*, I do not suppose the poet means a thick, compact, close-woven foliage, like that of the beech, which the oak seldom exhibits. In general, except in very luxuriant soils, the foliage of the oak is light and thin. I should therefore suppose, that instead of a close-woven shade, the poet means an extended one; which indeed is implied in the expression just before used, *ramos late tendens*. This indeed is a just characteristic of the oak; for its boughs, however twisted, continually take a horizontal direction, and overshadow a large space of ground. Indeed, where it is fond of its situation, and has room to spread, it extends itself beyond any other tree, and like a monarch takes possession of the soil.

The last Virgilian characteristic of the oak, is its *longevity*, which extends, I suppose, beyond that of any other tree:

> Multa virûm volvens durando secula vincit.

Perhaps the yew may be an exception.

Certain authors have calculated, with great ingenuity, and with a considerable shew of truth, that some of the old oaks, now or lately existing, may have been in being for centuries prior to the Christian era. This may appear somewhat staggering to most of our readers at first sight, but the facts, and the process of reasoning upon them, are satisfactory enough. The great Trotworth chestnut was called the *great chestnut* six centuries ago, in the days of King John; and we may very fairly estimate that it took four centuries to acquire so marked and distinguished an appellation; we may, therefore, venture to suppose it to be not much less than one thousand years of age. And then, if we consider the quick growth of the chestnut in favourable soil, compared to the slowness of growth of the oak, and, at the same time, the inferior bulk of the Trotworth chestnut to that of the Cowthorpe, the Bently, and the Boddington oaks, of which the reader will by and by be afforded an opportunity of judging, we shall unquestionably arrive at the conclusion, that the proposition as to the wonderful age of oak trees has very considerable probability on its side. But however this may be, the oak certainly lives longer than most other trees.

I mention the circumstance of its longevity, as it is of a nature singularly picturesque. It is through age that the oak acquires its greatest beauty, which often continues increasing even into decay, if any proportion exists between the stem and the branches. When the branches rot away, and the forlorn trunk is left alone, the tree is in his decrepitude, the last stage of life, and all beauty is gone.

Spenser has given us a good picture of an oak, just verging towards its last state of decay:

——A huge oak, dry and dead,
Still clad with reliques of its trophies old,
Lifting to heaven its aged, hoary head,
Whose foot on earth hath got but feeble hold,
And half disbowelled stands above the ground,
With wreathed roots, and naked arms,
And trunk all rotten and unsound.

I have dwelt the longer on the oak, as it is confessedly both the most picturesque tree in itself, and the most accommodating in composition. It refuses no subject either in natural or in artificial landscape. It is suited to the grandest, and may with propriety be introduced into the most pastoral. It adds new dignity to the ruined tower and Gothic arch: by stretching its wild mossgrown branches athwart their ivied walls, it gives them a kind of majesty coeval with itself; at the same time, its propriety is still preserved, if it throw its arms over the purling brook, or the mantling pool, where it beholds

Its reverend image in the expanse below.

Milton introduces it happily even in the lowest scene,—

Hard by a cottage chimney smokes
From between two aged oaks.

Before quitting the oak, it may not be amiss to notice a few of the various kinds of oaks with which we are acquainted.

The genus *Quercus*, of the Linnæan class and order *Monoecia polyandria;* male flowers containing many stamina, and female flowers containing one pistil upon the same plant.

1. *Quercus robur*, the English Oak; a well known tall deciduous tree; native of Britain, and found in most parts of Europe.

2. *Quercus phellos*, the Willow-leaved Oak; a deciduous tree; native of most parts of North America.

3. *Quercus prinus palustris*, the Chestnut-leaved Oak; a deciduous tree; native of most parts of North America.

4. *Quercus nigra*, or *ferruginea*, the Black-jack Oak; a low deciduous tree; native of North America.

5. *Quercus rubra*, the Red Oak; a tall deciduous tree; native of New Jersey, &c.

6. *Quercus alba*, the White Oak; a deciduous tree; native of Virginia.

7. *Quercus esculus*, the Italian Oak, or the Cut-leaved Italian Oak; certainly not the tree alluded to by Gilpin, (page 64,) seeing that it is a low deciduous tree; a native of Italy, Spain, and the south of France.

8. *Quercus ægilops*, the Spanish Oak, or oak with large acorns and prickly caps; a tall deciduous tree; a native of Spain.

9. *Quercus cerris*, the Austrian Oak, or the oak with prickly cups and smaller acorns; native of Austria and Spain.

10. *Quercus suber*, the Cork Tree; an evergreen tree; native of the southern parts of Europe.

11. *Quercus ilex*, the Ilex, or common Evergreen Oak; an evergreen tree; native of Spain, Portugal, Italy, &c.

12. *Quercus coccifera*, the Chermes Oak; a tall evergreen shrub; native of France and Spain.

13. *Quercus molucca*, the Live Oak; an evergreen tree; native of America.

The most valuable variety of the *Quercus robur*, or common oak, is said, in the *Caledonian Horticultural Transactions*, (vol. ii. p. 376,) to be the *Quercus pedunculata.* This is distinguished from the *Quercus robur*, by the marked circumstance of the acorns being placed on long fruit stalks, whilst those of the *robur* are nearly sessile. Besides the superior utility and hardness of the timber, the pedunculated oak is, in fact, the most magnificent of the two British species. Miller asserts, that this variety of the *Quercus robur*, which he calls the *foemina*, is more rare than the sessile-fruited; but Professor Martyn says that this is not the case, and that the pedunculated is as generally met with as the other. It is observed by Du Hamel, that oaks being propagated in forests from the acorn, so many varieties are thereby produced, that it is difficult to find two perfectly resembling each other in every respect. Professor Martyn observes, that the figures in ancient authors have the fruit uniformly on footstalks, which would seem to prove, that that variety had been the most common; and Ray considers it as the common oak of England. Du Roi affirms, that the timber of the sessile-fruited is reddish and brittle, whilst that of the stalk-fruited is white and hard. A writer in the *Quarterly Review* speaks of two distinct species of oak in England, — the *Quercus robur* and the *Quercus sessiliflora*, the first of which is a valuable tree, and the latter the reverse. The distinction he draws between the two is, that the acorn stalks of the *robur* are long, and those of the *sessiliflora* short; and that the former grows singly, or seldom two on the same stalk, whilst the latter grows in clusters, close to the stem of the branch. The *sessiliflora* is supposed to have been introduced, some two or three ages ago, from the German forests, where they abound; and, most unfortunately, this impostor has been propagated extensively in the New Forest, and other parts of Hampshire, in Norfolk, about London, and in other parts of England. Some people attribute the introduction of dry rot into our dockyards to the use of this tree. It is manifest, that the different authors we have quoted are speaking of the same trees, under different names. But, from all these observations, it is necessary to inculcate the imperative necessity of nurserymen and others invariably selecting their acorns from the pedunculated variety.

The Willow-leaved Oak will grow to be a large timber tree. It is an inhabitant of the swamps of the United States. It receives its name from its leaves very much resembling those of the common willow. These long narrow leaves have their surface smooth, and their edges entire, and their small brown acorns have shallow scaly cups. Of this sort there are several varieties, some having shorter leaves, others broader, and hollowed on the sides; some with large acorns, others with smaller.

The Chestnut-leaved Oak, or chestnut white oak, grows to be a large timber tree; and, in North America, which is its natural country, its wood is highly serviceable, although it grows in the swamps. Its leaves greatly resemble those of the Spanish chestnut tree. They are about the same size, smooth, and of a fine green colour. There are two varieties of this sort, one with larger leaves, larger acorns, and on longer footstalks than the other, — *Quercus prinus monticola*, or rock chestnut oak, and *Quercus prinus acuminata*, or yellow oak, and the *Quercus prinus chincapin*, or small chestnut oak.

The Black-Jack Oak is a tree of lower growth, seldom rising to more than thirty feet high. Its bark is of a very dark colour, whence its name. The leaves are smooth, very large, narrow at their base, and broad at their top, like a wedge. They have indentures towards the point, so as to give the whole an angular look ; they are of a shining green colour, and grow on short footstalks on the branches. There are one or two varieties of this sort, particularly one with trifid leaves, and another slightly trilobate, called the Black Oak of the Plains, the leaves and cups of which are small.

The Red Oak will grow to be a timber tree of about eighty feet high, and three or four feet diameter, with a fine ample head. It is a native of New Jersey, &c. The branches are covered with a very dark coloured bark. It is called the red oak from the colour of its leaves, which, in autumn, change to a dull red hue. They are smooth and shining on both sides, pretty large, and deeply divided into lobes, with open sinuses. There are several varieties of this species, the leaves of which differ in size and figure ; but those of the larger sort are exceedingly large, beautifully shaped, and finely veined. They are sometimes found ten inches long, and five or six broad. They are obtusely sinuated, have angles, and are of a fine green colour in the first part of the summer, but afterwards change by degrees to red. The acorns are abundant, large, and contained in remarkably flat cups, with closely united scales. The timber is reddish, its texture coarse, and its pores are often so large as to admit of the insertion of a bristle. There are several varieties of this tree, exhibiting a manifest difference in the size of the leaves, acorns, and cups. The Virginian Scarlet Oak is the best, the bark of which is preferred to that of all other sorts, except that of the Spanish (American) Oak, the Black Oak, and the Rock Chestnut Oak.

The White Oak reaches to the height of seventy or eighty feet, and to six or seven feet in diameter, in Virginia, where it grows naturally. The timber is durable, valuable, and applied to a greater number of purposes, and especially it is of greater value for building, than any other of the American sorts. The branches of this tree are covered with a whitish bark ; the leaves, also, are of a light colour. They are about six inches long, and four broad. They have several obtuse sinuses and angles, and are placed on short footstalks. There is a variety, or, perhaps, there are two varieties of this species. The acorns are like those of the common oak.

The Italian Oak will grow to the height of thirty feet. The branches are covered with a dark purplish bark. The leaves are smooth, and so deeply sinuated as to have some resemblance to pinnated leaves; each has a very short footstalk. The fruit of this species sits close to the spray. The cups are in some degree prickly and rough, and each contains a long slender acorn that is eatable. This, says Hanbury, is the true *Phagus* of the Greeks, and the *Esculus* of Pliny. In the places where these trees grow naturally, the acorns are ground into flour, and made into bread in times of scarcity.

The Spanish Oak will grow to be as large a tree as our common oak, and is no way inferior to it in stateliness and grandeur; for the branches all around extend very far, producing a delightful shade, when the trees are in leaf. Though the bark of these branches is of a whitish colour, they are nevertheless marked with brownish spots. The leaves are of an oblong-oval figure, but they are seldom longer than three inches, and are about two inches broad. They are smooth, and have their edges deeply serrated. These serratures are acute, and they chiefly turn backwards. Their upper surface is of a fine light green colour, and their under part is of a hoary cast; and each branch is plentifully ornamented with these beautiful leaves, all over the tree. The cups are very peculiar, for they are extremely large, and composed of several great rough black scales, that lap over one another like those of a fish: they almost cover the acorn. The acorns are pretty large, narrow at the bottom, but broader above, and have their tops flat. The Greeks call the acorns *velani*, and the tree itself *Velanida*. The acorns are used in dyeing.

The Austrian Oak, or the Turkey Oak, as it is more frequently called, is a native of the south of Europe, introduced into this country in 1735. It is distinguished by oblong, pointed, and frequently lyrate leaves, jagged, and a little hoary on the under side. The acorns are small, and have rough, prickly cups. The tree grows forty or fifty feet high; some authors say, that it was from an oak of this species, grown in Devonshire, that Mr Lucombe took the seed which produced the oak known by his name.

In the sixty-second volume of the *Philosophical Transactions*, a particular account is given of this oak. Mr Lucombe, a gentleman of Devonshire, having, about the year 1765, sown a parcel of acorns, gathered from a tree of his own growth, and observing that one of the seedling plants preserved its leaves through the winter, he paid particular attention to it, and propagated some thousands from it by grafting. Its being an evergreen is not the only peculiarity of this variety: it has a somewhat more upright tendency, and seems to be of a quicker growth than oaks in general. We have also another variety of the *Quercus cerris*, called the Fulham Oak. But a still more curious variety has recently been introduced into the Edinburgh Experimental Garden by Mr Neil, the secretary to the Caledonian Horticultural Society, and the ingenious author of the *Horticultural Tour.* " About sixteen years ago," says he in a letter to us now received, " I observed a weeping oak in the Amsterdam Botanic Garden, and I suggested to Mr Pfister, the curator, to plant some stocks around it, and to inarch the spare branches on the stocks. He engaged to do so; adding, that he had promised a plant to the Jardin des Plantes at Paris; but that, if he succeeded with several, we should have one. Several years afterwards, I requested a friend, (Mr John Mitchell of Leith,) who was going to Amsterdam, to call at the garden; he did so, and received from Mr Pfister the plant now in the Experimental Garden, which, by unremitting care, he conveyed to us uninjured. The species is the Turkey oak, or *Quercus cerris.* The Fulham and the Lucombe oaks are varieties of this; besides which, I have seen the dentated, the narrow-leaved, and the rough-leaved varieties, so shat ours will fall to be variety six or seven, (the others being marked A, B, &c.) thus, *Quercus cerris*, var. 7, *Pendula*."

The Striped-leaved Oaks, both of the golden and silver colours, are usually propagated by inarching into the common oak; but it is best increased by grafting.

The Cork Tree has two varieties,—the broad-leaved cork tree, and the narrow-leaved cork tree. The broad-leaved cork tree is a timber tree of Portugal and Spain, and other southern parts of Europe, where it grows naturally. The fungous bark of this tree produces the true cork. The bark is thus rough and spongy on the trunk and main branches, but on the young shoots it is smooth and gray, and that on the youngest is white and downy. The leaves are of an oval figure, with sawed edges. Their upper surface is smooth, and of a strong green colour, and their under surface is downy. They grow alternately on the branches, on very rough, though strong footstalks; and, indeed, they differ very little from many forms of the ilex. The acorns of the cork tree are longish, smooth, and brown when ripe, and of the size and shape of some of our common acorns, to which they are so much alike, as not to be distinguishable when mixed together.

The Narrow-leaved Cork Tree is a variety only of the common and most general sort. As its name imports, it has narrower and smaller leaves. There is a very fine cork tree in the botanical gardens at Chelsea.

The best cork of commerce is taken from the oldest trees, the bark of the young trees being too porous for use. They are, nevertheless, barked before they are twenty years old; and this first barking is necessary to make way for the succession of a better, it being observable, that after every stripping, the bark increases in value. The first crop is thin, hard, full of fissures, and consequently of little value. The cork is the bark which the tree pushes outwards, as is common to all trees; but in the cork tree, the outer bark is thicker and larger, and in greater quantity, and more easily removed. When removed, the *liber*, or inner bark, appears below it, and from this the cork is reproduced in the course of a few years. The trees are generally peeled over in ten years. The operation is performed by means of an instrument constructed for the purpose. This is an axe, with a handle terminating in a wedge. The bark is cleft longitudinally, at certain intervals, down to the crown of the root; a circular incision is then made from each extremity of the longitudinal cuts; the bark is beaten to detach it from the *liber*, and it is lifted up by introducing the wedged handle, taking care to leave enough of the inner laminæ upon the wood, without which precaution the tree would certainly die. The bark is then divided into convenient lengths, flattened, and slightly charred, to contract the pores. This operation is so far from injuring the trees, that it is even necessary, and contributes to their health; for without it they thrive but slowly; nay, in a few years they begin to decay, and in less than a century, die of age; whereas those trees which have been regularly peeled, will live upwards of two hundred years. This may appear strange, but we can vouch for it that it is not without a parallel, for we have ourselves succeeded in very much renovating old sycamore trees, by scraping off the old dry scaly bark, which the trees themselves were anxiously, but ineffectually, attempting to rid themselves of. "Wonderful," says Hanbury, "is the wisdom and goodness of Almighty God, and calls for our profoundest admiration, that he should not only provide for us, his creatures, such variety of things for use, but cause, as in this instance, what would be death to one tree, to be refreshment to another, for the supply of our necessaries; and in the formation of this tree, not only causing the cork to grow, but providing also an interior bark sufficient to nourish the tree, and even in a manner exhilarate it, as the loaded wool is shorn from the fleecy kind. We should be always exercised in these considerations, and this will inspire us with acts of gratitude and obedience."

We cannot part with the cork tree, as connected with forest scenery, without giving way to those emotions which naturally arise within us at its very name, associated as it is in our minds with our early recollections of those picturesque localities rendered classical by Cervantes. It is impossible to hear it mentioned without an immediate mental recurrence to the adventures of the renowned hero of La Mancha, with some of that delight with which his puissant deeds first filled our youthful minds. Nor can we forget that any history which records the recent deeds of British valour in the Spanish Peninsula, must frequently notice those groves of cork trees, to clear which of a determined enemy many a rifle shot was fired, and under whose shade many a brave soldier reposed, night after night, with nothing but their foliage for a shelter.

To these evergreen species, the *Quercus virens*, or Lace Oak, ought to be added; for although abounding chiefly in the northern states of North America, it was cultivated by Millar so long ago as 1739. We think this tree would even succeed in Scotland, because the sea-breeze is favourable, if not indispensable, to its full growth; for it skirts the sea-shore, and grows in the very sands around the bays, and creeks, and islands, from Norfolk, in Lower Virginia, to the mouth of the Mississippi, and it is seldom or never seen farther than fifteen or twenty miles up the country. Its ordinary height is forty or forty-five feet. The general diameter is about one or perhaps two feet; but Michaux mentions one of twenty-four feet in circumference, which had a large tufted head, borne upon a trunk of eighteen or twenty feet high. The Lace Oak branches out into numerous boughs, which make excellent braces for ship-building, for which purpose it is in great request in America.

Mr Stuart, in his most interesting work recently published, called *Three Years in North America*, thus speaks of this tree, whilst describing his journey from Georgetown to Charleston: "On this day's journey I first saw, and in great numbers, the most valuable of the American trees, the *Quercus virens*, the most durable of oaks. It flourishes most on lands adjacent to salt water. It is almost as heavy as *Lignum vitæ*. Its trunk is generally not long, but its crooked branches frequently spread over more than a quarter of an acre of ground. The wood of this tree is almost incorruptible. It was on account of the abundance of this tree in Florida, fit for building ships of war, that the Americans shewed the great anxiety, which was at last gratified in 1819, to add Florida to their extensive territories, and which had led the general government, since its acquirement, to lay out very large sums in the preservation and establishment of live oak plantations in Florida. Indeed, I have heard of the formation of plantations of trees, upon a great scale, nowhere in North America, but in Florida. But this need not occasion surprise, for there is no object which the people of the United States are so anxious to attain as the possession of a powerful navy."

The Chermes, or Kermes Oak, is a low growing tree, and a fine evergreen. Its height is not more than twenty feet. It has much the appearance of the *Ilex*, though it is certainly a distinct species. The leaves are smooth and oval, of a thickish consistence, and larger than most sorts of the *Ilex*. Their verge is indented, and many of them are possessed of small spines; and they stand on short footstalks. The acorns are small. This tree was introduced upwards of a century ago into the Edinburgh garden, by Sutherland, the eminent superintendent. The tree is a native of Spain, the southern provinces of France, and the Mediterranean coasts of Africa. Its name of *Quercus coccifera* is obtained from the circumstance of its nourishing large quantities of a small insect, the *Coccus ilicis*, or, as some authors have it, the chermes, or kermes. This, when gathered, immersed in a diluted acid, and then dried, forms the article of commerce called *kermes*. The declivities of the Sierra Morena are covered with the kermes oak; and many of the inhabitants of the province of Murcia have no other mode of living than that of gathering the kermes. Latreille has united this insect to the cochineal family, which it resembles, not only in its form, but in producing a scarlet dye. Till the discovery of the cochineal insect upon certain species of the *Cactus* in South America, the kermes was the only substance used in dyeing scarlet, after the period of the disuse and loss of the *Murex* and *Buccinum*,—the shell fish that produced the Tyrian purple of the Romans. The people of Barbary employ the kermes for dyeing the scarlet caps used by the natives in the Levant, and they prefer that of Spain to their own produce, perhaps because the gathering and drying of the insect is better understood in Spain. In England, and in other countries where manufactures are extensively carried on, the cochineal has almost entirely superseded the use of the kermes.

The Live Oak is common in America, where it grows to timber. The leaves are large, spear shaped, and of a fine dark-green colour, entire, and placed on short footstalks. The acorns are small, and grow in cups with footstalks. The wood of this tree is very useful to the inhabitants of Carolina, Pennsylvania, and Virginia, where it grows naturally, being very tough and hard. The acorns serve for food for the meanest people, and are so sweet that they are relished by all ranks ; a good and sweet oil is also extracted from them.

Besides these oaks which are more generally known, Michaux's beautiful book, the *North American Sylva*, has made us acquainted with numerous trees of this family with which British planters are less familiar. We shall now notice a few of these.

Quercus olivæ formis, or *muscosa* of some authors, or the Mossy Cup Oak, with oblong, smooth leaves, glaucus underneath, and deeply and unequally sinuated and lobed ; fruit ovate ; cup very deep, so as nearly to envelope the acorn, which is of an olive form. It is covered with scales, the points of which are generally bent backwards, terminating at the border of the cup in filaments. This tree is a native of the banks of the Hudson, but rare. It grows to the height of sixty or seventy feet. Its trunk is clad in a white bark, which appears as if it were laminated ; and the head is large and majestic, so that the tree has altogether a very noble appearance. It is rendered remarkable by its secondary branches being slender, flexible, and always tending downwards. A specimen of the *Quercus muscosa* was planted in the Botanic Garden, by the late professor of botany, Dr Hope. It thrives in Scotland, even in the poorest sandy soil, and will prove a great addition to our British park scenery.

The *Quercus tinctoria*, or the *Quercitron*, or Dyer's Oak, called also more commonly in America the Black Oak, but not to be confounded with the dwarfish tree called the Black Jack Oak, which we noticed some little way back. The dyer's oak prevails almost all over the United States. It is one of the tallest trees in North America ; for it rises to the height of from eighty to ninety feet, with a diameter of from four to five feet. Its leaves are pretty large, and divided into four or five lobes, deeply laciniated, with large and open sinuses. Michaux remarked, that the leaves of the young plants turned to a dull red in autumn, but that those of the old trees turned yellow, and that the yellow cast began first in the petiole. The timber of this tree is reddish and coarse grained, but it is strong, and withstands the progress of decay longer than most others. The bark is valuable for tanning, but apt to give the leather a yellow colour, which it is difficult to get rid of. It is the cellular part of the bark of the black oak which affords the quercitron, so much used for dyeing wool, silk, and hanging paper. According to the experiments of Bancroft, one part of the quercitron bark affords as much yellow colouring matter as eight or ten parts of wood. The external or cracked parts of the old bark, being of less strength, are not taken into the account. The decoction is of a brownish yellow colour; and this is deepened by the alkalies, and rendered brighter by acids. The solution of tin added to this decoction precipitates a bright yellow. In dyeing wool, an equal weight of alum is added to the bark in the boiling; and the stuff being added, the colour is deepened or brightened at pleasure. The committee of the Caledonian Horticultural Society, on the naturalization of trees and plants, strongly recommend this tree to be planted in the glens of the Highlands of Scotland. It grows freely in the neighbourhood of Paris. But the committee conclude their report, by saying, that " this and other tender species of oak ought to be raised from the acorns in deep baskets, and placed, if possible, where they are to remain."

The *Quercus macrocarpa*, or the Overcup White Oak—the *Chêne à gros gland*, of the American French—or the Bur Oak, is a native of Kentucky, and other parts of America. It is a very fine tree, which grows to the height of sixty feet, having a thick dusky green foliage. Its leaves are often fifteen inches long, and eight broad, notched at the top, with deep sinuses below. The acorns, of an oval form, are enormously large, have two-thirds of their length enclosed in a thick rugged cup, the borders of which are furnished with slender flexible filaments, which, however, do not always appear. The fruit are few in number.

Quercus obtusiloba, the Post Oak, a native of Maryland, and other parts of America. The leaves are supported by short petioles, and are divided into four or five lobes. The colour is a dusky green above, and a grayish tint underneath. The tree grows forty or fifty feet high, and the boughs shoot out in angles so as to make them valuable for knees in ship-building. It grows in dry, light soils.

Quercus lyrata, the Overcup Oak, (not to be confounded with the Overcup White Oak noticed above,) a native of the lower and maritime part of the two Carolinas, and grows in the swamps along the rivers, where it is often inundated. It rises above eighty feet high, and grows to twelve feet in circumference. The leaves are six or eight inches long, narrow, smooth, and borne on long petioles. They are lyrated with large and deep sinuses. The acorns are broad, rounded, and flattened at their summits, and they are almost entirely enclosed in their cup. The timber of this tree is inferior to the white oak or the post oak, but it is nevertheless much esteemed. The bark is white.

Quercus prinus discolor, the Swamp White Oak, grows every where in the swamps of the United States, to the height of seventy feet. Its trunk is covered with a whitish gray bark. It is a very fine tree, of full foliage. Its leaves are from six to eight inches long, and four broad, smooth, dark green above, and almost white and very downy below, whence its name. The acorns are large, oval, and borne upon peduncles; the cup is spread, and edged with short slender filaments. The timber is fine, and close grained, and it is strong and elastic, and very valuable.

Quercus imbricaria, the Laurel Oak, so called from the form and appearance of its leaves, but deciduous. This tree is, in certain districts of America, known by the name of the jack, or black jack oak; we must therefore take care not to confound it with the *Quercus ferruginea.* Its most common *habitat* is the country of the Illinois, where the French call it *Chêne à lattes.* It rises to forty or fifty feet high, has a smooth bark, and is very branchy at three-fourths of its height, appearing tufted when it stands alone. Its timber is heavy and hard.

Quercus cinerea, Upland Willow Oak. Grows only eighteen or twenty feet high.

Quercus pumila, Running Oak. Seldom more than twenty inches high.

Quercus heterophylla, Bartram Oak. Grows near Philadelphia, thirty feet high. Its leaves are long, oval, and very regularly indented, smooth, and of a dusky green.

Quercus aquatica, Water Oak, a native of Virginia. Grows forty-five feet high; leaves entire, but very various in form. Acorns in shallow cups, slightly scaly, brown, and bitter. Trunk smooth-barked.

Quercus banisteri, Bear Oak, a native of New Jersey. This shrub rises to about eight or ten feet. It is branchy and covered with a smooth bark. Its leaves are pretty regularly divided into three or four segments, and are of a dusky green colour. The acorns are small and blackish, and longitudinally striped with a few reddish streaks; these are extremely abundant, and the bears and other animals eat them, by standing on their hind legs, whence the name. It grows in the most arid soils.

Quercus catesbæi, Barren Scrub Oak, a native of the Carolinas and Georgia, growing even in a dry and moving sand. Foliage thin, leaves pretty large, and on short petioles, deeply and irregularly sinuated. The acorns are in thick cups, dilated above, and remarkable for the scales round the edge, which incline inwardly. The acorns are big, blackish, and partly covered with a gray dust. This tree has a tortuous trunk, branching into boughs at two or three feet from the ground.

Quercus falcata, Spanish Oak, a native of Maryland, Virginia, &c. (not to be confounded with the *Ægilops* formerly noticed.) It is called in the Southern States, the Red Oak. Height about thirty feet. Leaves trilobed, downy underneath, as well as the spray on which they grow. Acorns small, round, and brown. Trunk covered with blackish bark. The timber is of little value, but the bark is highly prized, as leather prepared with it is whiter and more supple than any other.

Quercus coccinea, the Scarlet Oak, (not to be confounded with the *Coccifera* already noticed.) This tree, a native of the environs of Boston, is very tall, sometimes more than eighty feet high. Leaves on long petioles, large, smooth, shining on both sides, laciniated very remarkably, and having deep sinuses rounded and wider at their base. They turn to a lively red in autumn. The acorns are oval, pretty large, and contained in scaly cups. The timber is reddish, coarse, and little esteemed. This tree grows well in France. A plantation of them was made at Rambouillet in 1786, the trees in which are forty-five feet high.

Quercus borealis, Gray Oak. This tree grows farther northward in America than any of the other kinds, being a native of the banks of the St Lawrence, but does not rise above forty feet high there, although it grows to fifty or sixty feet in the United States. Leaves pretty large, smooth on both sides, and deeply divided into right angles. Its acorns, contained in a scaly cup, are of middling size, and are rounded at their summits. Its wood is of no great value.

Quercus palustris, the Pin Oak, a native of the northern parts of the United States. It grows to the height of eighty feet. Its secondary branches are slender and numerous, and so intermingled as to give it a bushy appearance, which perhaps occasions its name. Leaves, smooth on both sides, on long petioles deeply lobed, and one half smaller than those of the scarlet oak. Acorns small, rounded, and contained in shallow cups, with closely imbricated scales. Bark smooth, and composed of thick cellular texture. The tree, when young, grows naturally in a pyramidal form. The timber is reddish, coarse grained, and not much esteemed.

There are many other oaks which we might particularize, but we imagine that we have now produced enough of species, either to satisfy or to excite the reader's curiosity as to this most important and interesting sylvan family. We may mention, before concluding this article, that all the different species of oaks are liable to be infested by the egger moth, *Phalæna quercus* of Linnæus, the *Lasiocampa* of Leach, and its larvæ sometimes denude entire branches. The small gnat, the *Cynips quercus folii*, the *Diplalepis* of Leach, pierces the oak leaves with its needle-like sting, and deposits its eggs in the wound ; the cellular tissue swells, the extravasated juices rise around the puncture, and form a gall, which hardens, and in this the larva lives, and feeds, and changes to a pupa. These are the oak galls of commerce; the best of which are imported from Turkey and Greece. The oak apple is an excrescence similarly produced by a different insect.

After the oak, let us examine the Ash. This tree, in point of utility, is little inferior to the oak. Its uses are infinite. To the ashen spear the heroes of antiquity were indebted for half their prowess. In the arts of peace, as well as of war, in architecture, tillage, and manufactures, the ash objects to business of no kind: while even its very refuse spars are accounted the best fuel in the forest.* The ashen billet produces a steady, bright, lambent flame; and as Mr Evelyn tells us, may be reckoned among the ακαπνα ξυλα, fuel, with little smoke.

The ash is remarkable for burning readily when recently taken from the tree. It throws out a great deal of sap while burning, and its bright flame is to be attributed to the quantity of hydrogen generated during its combustion.

I have sometimes heard the oak called the Hercules of the forest; and the ash, the Venus. The comparison is not amiss: for the oak joins the idea of strength to beauty; while the ash rather joins the ideas of beauty and elegance. Virgil marks the character of the ash as particularly beautiful,—

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* In some parts of the continent of Europe, the ashen billet sells for one-half more than any other wood, except beech.

Fraxinus in sylvis pulcherrima.

The ash generally carries its principal stem higher than the oak, and rises in an easy, flowing line. But its chief beauty consists in the lightness of its whole appearance. Its branches at first keep close to the trunk, and form acute angles with it: but as they begin to lengthen, they generally take an easy sweep; and the looseness of the leaves corresponding with the lightness of the spray, the whole forms an elegant depending foliage. Nothing can have a better effect than an old ash hanging from the corner of a wood, and bringing off the heaviness of the other foliage with its loose pendent branches. And yet in some soils, I have seen the ash lose much of its beauty in the decline of age. Its foliage becomes rare, and meagre; and its branches, instead of hanging loosely, often start away in disagreeable forms. In short, the ash often loses that grandeur and beauty in old age, which the generality of trees, and particularly the oak, preserve till a late period of their existence.

We quite agree in this remark, but, at the same time, we must say that we have seen many instances to the contrary. In particular, we might mention a noble ash, one of the most magnificent trees as to form we ever beheld, which grows at Earlsmill, near Tarnawa Castle, the seat of the Earl of Moray, in Morayshire. This tree measures above seventeen feet in girth at three feet from the ground, but it spreads out so much below, that its measurement would be much greater if taken lower down. There is a small hole at the root of it, large enough to admit one man at a time, and on creeping into it, the cavity is found to be so great as to allow three people to stand upright in it at the same moment. The interior has been in this state during the memory of the oldest persons; and yet, until an accident in July, 1824, nothing could be more grand than its head, which was formed of three enormous limbs variously subdivided in bold sweeping lines. The foliage, though appearing late, was, and indeed still is, abundant and beautiful. But some days before the 23d of July, 1824, its great southern limb was broken down by a high wind, and although the ruin thus created was sufficiently deplorable, yet it was strikingly sublime.

The ash also, on another account, falls under the displeasure of the picturesque eye. Its leaf is much tenderer than that of the oak, and sooner receives impression from the winds and frost. Instead of contributing its tint therefore in the wane of the year among the many coloured offspring of the woods, it shrinks from the blast, drops its leaf, and in each scene where it predominates, leaves wide blanks of desolated boughs, amidst foliage yet fresh and verdant. Before its decay, we sometimes see its leaf tinged with a fine yellow, well contrasted with the neighbouring greens. But this is one of Nature's casual beauties. Much oftener its leaf decays in a dark, muddy, unpleasing tint. And yet sometimes, notwithstanding this early loss of its foliage, we see the ash, in a sheltered situation, when the rains have been abundant, and the season mild, retain its green, (a light pleasant green,) when the oak and the elm, in its neighbourhood, have put on their autumnal attire.

The foliage of the ash not only falls suddenly with the first frost, but it has also the disadvantage of being very late in getting into leaf in spring. Ashes, therefore, should be sparingly planted around a gentleman's residence, to avoid the risk of their giving to it a cold and late appearance, at a season when all Nature should smile.

Another disagreeable circumstance attends the ash, which is indeed its misfortune, rather than its fault. Its leaf and rind are nutritrive to deer, and much used in browzing them in summer. The keepers of the forest therefore seek out all the ash trees they can find, which are for this purpose mangled and deformed.

One thing more I should mention with regard to the ash, as it is of a picturesque nature, and that is the beauty of its roots, which are often finely veined, and will take a good polish. Dr Plot, in his *Natural History* *of Oxfordshire*,* speaks of certain knotty excrescences, in the ash, called the *brusca* and *mollusca*, which, when cut and polished, are very beautiful. He particularly mentions a dining table, made of the latter, which represents the exact figure of a fish.

With regard to these exact figures of animals, and other objects, which we meet with both in stone and wood, I cannot say I should value them much as objects of beauty. They may be whimsical and curious: but, in my opinion, the roots and veins of wood and stone are much more beautiful, when they are wreathed in different fantastic forms, than when they *seem to aim* at any *exact figures*. In the former case they leave the imagination at liberty to play among them, which is always a pleasing exercise to it: in the latter they are at best awkward and unnatural likenesses, which often disgust the picturesque eye, and always please it less than following its own fancy, and picking out resemblances of its own.

Another curiosity in the ash, which is likewise of the picturesque kind, is a sort of excrescence, which is sometimes found on a leading branch, called a *wreathed fascia*. The fasciated branch is twisted and curled in a very beautiful form: which form it probably takes, as Dr Plot supposes, from too quick an ascent of the sap;† or, as other naturalists imagine, from the puncture of some insect in the tender twig, which diverts the sap from its usual channel, and makes the branch monstrous. The wreathed fascia is sometimes found in other wood, in the willow particularly, and in the holly; but most commonly it is an excrescence of the ash. I have a fasciated branch of ash, found in the woods of Beaulieu, in New Forest, which is most elegantly twisted in the form of a crosier. I have seen a holly also twisted like a ram's horn. We have this appearance sometimes in asparagus.

These distortions of branches are all to be attributed to the operations of insects. Some of these may be so microscopically small as to escape detection from ordinary observation, but their work is not the less sure on that account. The birch is liable to a fascia, so densely matted as at some distance to give it the appearance of a crow's nest. In Scotland, these are called witches' knots.

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* See *Natural History of Oxfordshire*, ch. vi. sect. 80.

† *Ibid.* sect. 82.

It is not uncommon for the seeds of trees, and particularly of the ash, to seize on some faulty part of a neighbouring trunk, and there strike root. Dr Plot* speaks of a piece of vegetable violence of this kind, which is rather extraordinary. An ash-key rooting itself on a decayed willow, and finding, as it increased, a deficiency of nourishment in the mother plant, it began to insinuate its fibres, by degrees, through the trunk of the willow into the earth. There, receiving an additional recruit, it began to thrive, and expand itself to such a size, that it burst the willow in pieces, which fell away from it; and what was before the root of the ash, being now exposed to the air, became the solid trunk of a vigorous tree.

We remember to have remarked a very curious instance of this growth of one tree on another, on the mountain road from Buttermere to Keswick. A wild cherry stone had been accidentally dropped by some bird into the decayed crevice of a tolerably large ash, where it had vegetated and produced a tree of very considerable magnitude; and what rendered the appearance of this curious combination more strange, was the circumstance that the cleft where the cherry tree was rooted was some fifteen or twenty feet, or even more, from the ground.

The ash family, *Fraxinus*, is of the class and order *Polygamia dioecia.* "The use of ash," says old Evelyn, "is, next to oak itself, one of the most universal. It serves the souldier—*et fraxinus utilis hastis*, Ovid—the carpenter, wheel-wright, cart-wright, cooper, turner, and thatcher. Nothing like it for our garden, palisad-hedges, hop-yards, poles, and spars, handles, stocks for tools, spade-trees, &c. In sum, the husbandman cannot be without the ash for his carts, ladders, and other tackling. From the pike, spear, and bow, (for of ash were they formerly made,) to the plow; in peace and war it is a wood in highest request. Lastly, the white and rotten dottard part composes a ground for our gallants' *sweet powder;* and the truncheons make the third sort of the most durable coal, and is (of all other) the sweetest of our forest fuelling, and the fittest for ladies' chambers. To conclude, the very dead leaves afford (like those of the elm) relief to our cattle in winter; but the shade of them is not to be endured, because it produces a noxious insect; and for displaying themselves so very late, and falling very early, not to be planted for umbrage or ornament; especially near the garden, since (besides their predatitious roots) the deciduous leaves, descending with so long a stalk, are drawn by clusters into the worm holes, which foul the alleys with their falling keys, and suddenly infect the ground."

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* See *Natural History of Oxfordshire*, ch. vi. sect. 79.

The coachmaker uses a great deal of ash. Its characteristics are toughness and elasticity. It will not thrive on those soils where the bottom is wet, nor in mossy earth or gravel, but in most others it will do well; and especially in rocky dingles, where a friable loam has accumulated from the debris of the surrounding heights, and especially where there is a stream running in the bottom. To the stream the ash sends its long fibrous roots, which seems to delight in creeping under the gently rippling water, but it cannot bear stagnant water or a marsh. It is said, indeed, that where the ground is wettish merely, the long roots tend to render it dry, by acting as under drains. The proverb which prevails in some parts of England, "May your footfall be by the root of an ash,"—may you get a firm footing,—is derived from this property in the ash of draining the adjacent soil. But the best ash timber is always grown in dry banks, where its growth is slow. In the days of the Welsh Prince Howel the Good, an ash was rated at fourpence, whilst a branch of mistletoe was valued at thirty shillings. The supposition that its shade is more injurious than that of other trees, is a fallacy. It is the wide extension of its small roots that impoverish the ground, and injure crops.

Wildenow enumerates fourteen species of the ash family, eight of which are included in the Kew catalogue. Of these, one is a native of Britain, the *Fraxinus eccelsior*, or common ash. Of this, Dr Smith gives us a variety also native, the *Fraxinus ramis pendulis*, or weeping ash, for which he gives Gamlingay in Cambridgeshire, as the habitat. The *Fraxinus simplicifolia*, or various-leaved ash, has leaves, not pinnated, but simple. This possesses no advantages as a timber tree, and as it is always raised from layers, it ought rather to be avoided. It is a mere variety of the common ash; for Mr Macnab, the able and intelligent superintendent of the Edinburgh Botanic Garden, informs us, that he sowed the seeds of the various-leaved ash some years ago, but that the plants produced had the pinnated leaves of the common British species. The tree producing these seeds in the Edinburgh garden, is upwards of fifty feet in height, although the soil it grows in is little better than sand.

Michaux the younger, whose beautiful work we have already noticed, says, that eight species of ash are mentioned by botanists as being indigenous to Europe, and he imagines, that in America more than thirty species will be found east of the Mississippi. He enumerates the following:

Fraxinus americana, the White Ash, a native of the United States, most abundant north of the river Hudson. A cold climate seems most congenial to its nature. It has its name from the colour of its bark, which, on large trunks, is deeply furrowed, and divided into small squares from one to three inches in diameter. It grows on the banks of rivers and edges of swamps, and attains the height of eighty feet, with a diameter of three feet. Its trunk is perfectly straight, and undivided often to the height of more than forty feet. Leaves twelve or fourteen inches long,—opposite, and composed of three or four pair of leaflets, surmounted by an odd one,—the leaflets borne on short petioles. Early in the spring they are covered with a light down, which disappears as summer approaches, and the leaves become quite smooth, and of a light green colour above, and whitish beneath. This remarkable contrast of colours has induced Dr Michlemberg to call it the *Fraxinus discolor*. The timber is reddish, and the sap white. This tree has long been known in France, England, and Germany.

Fraxinus tomentosa, the Red Ash, grows in Pennsylvania, &c. It is a beautiful tree, growing sixty feet high. The bark on the trunk is of a deep brown, and the perfect timber is of a brighter red than that of the white ash.

Fraxinus viridis, the Green Ash, common in Pennsylvania, &c. It is easily recognized by the brilliant green of its leaves, of which the two surfaces are alike. From this Dr Michlemberg has called it the *Fraxinus concolor*. This species has multiplied in France, from seeds sent home by the elder Michaux, in 1785. It supports the inclemency of the winter, and is much esteemed for the singular tint of its foliage, which is strikingly contrasted with that of other trees.

Fraxinus sambucifolia, the Black Ash, grows abundantly in the northern section of the United States. It rises sixty or seventy feet high. It requires a moister soil exposed to inundations. Its buds are of a deep blue, and the young shoots of a bright green, sprinkled with dots of the same colour, which disappear as the season advances. It is easily distinguished from the white ash by its bark, which is of a duller hue ; and it is less deeply furrowed, and has the layers of the epidermis applied in broad sheets. The perfect wood is brown, and of fine texture, and tougher and more elastic than the white ash ; but it is less durable when exposed to alternate moisture and dryness. Michaux tells us that another lofty species of ash exists in Kentucky, which is also called the black ash, but he is unable to describe it

Fraxinus quadrangulata, the Blue Ash, found in Tennessee, Kentucky, &c. where the climate is mild, and the soil so fertile, that the luxuriance of vegetation is astonishing. This tree frequently exceeds seventy feet in height. The young shoots, to which the leaves are attached, are distinguished by four opposite membranes, three or four lines broad, and of a greenish colour, extending throughout their whole length, a character which disappears after the third or fourth year, leaving only the traces of its existence. Milk in which its leaves have been boiled, is said to be a remedy for the bite of the rattlesnake ; but this is probably nothing more than a popular fancy. Numerous beautiful stocks of this tree are now existing in Europe, produced from seeds sent home by the elder Michaux ; and the various uses to which its timber is applied in America, should induce Europeans to multiply it in their forests.

Fraxinus platicarpa, Carolinian Ash. This tree abounds in North Carolina, whence its name. It grows on the marshy borders of creeks and rivers. Its vegetation is beautiful, but its stature rarely exceeds thirty feet. Its leaves are covered with a thick down in spring, which disappears in summer.

As a beautiful variety of the tree we are now examining, the Mountain Ash, often called the Roan Tree, should be mentioned. Its name denotes the place of its usual residence. Inured to cold and rugged scenes, it is the hardy inhabitant of the northern parts of this island. Sometimes it is found in softer climes ; but there it generally discovers, by its stunted growth, that it does not occupy the situation it loves.

In ancient days, when superstition held that place in society which dissipation and impiety now hold, the mountain ash was considered as an object of great veneration. Often, at this day, a stump of it is found in some old burying-place, or near the circle of a Druid temple, whose rites it formerly invested with its sacred shade. Its chief merit now consists in being the ornament of landscape. In the Scottish Highlands it becomes a considerable tree. There, on some rocky mountain, covered with dark pines and waving birch, which cast a solemn gloom over the lake below, a few mountain ashes joining in a clump, and mixing with them, have a fine effect. In summer the light green tint of their foliage, and in autumn the glowing berries which hang clustering upon them, contrast beautifully with the deeper green of the pines : and if they are happily blended, and not in too large a proportion, they add some of the most picturesque furniture with which the sides of those rugged mountains are invested.

Botanically speaking, however, the mountain ash is no variety of the ash, but a very distinct genus. The mountain ash, or roan-tree is the *Pyrus aucuparia* of modern botanists ; the *Sorbus aucuparia* of the older, is of the class and order *Icosandria pentagynia*. It is a hardy highland tree, and though of little value, or at least little used as timber, its beauty, both when in flower and when it is richly garnished with its coral looking red bunches of berries, renders it a most pleasing object, associating well, as our author says, with the hazel copse below, and the dark pines and pensile or tufted birches which tower above it on the bowery banks of some mountain stream or lake. A branch of the roan tree is still considered good against evil influences in the Highlands of Scotland, and in Wales, where it is often hung up over doorways, and in stables and cowhouses, to neutralize the wicked spells of witches and warlocks.

The *Pyrus domestica*, or true service, is a native of the south of Europe, though domesticated in Britain. The wood is compact and strong, and makes excellent shuttles for weavers. The fruit remains on the tree during a part of winter.

After the oak and ash, we examine the Elm. The oak and the ash have each a distinct character. The massy form of the one, dividing into abrupt, twisting, irregular limbs, yet compact in its foliage, and the easy sweep of the other, the simplicity of its branches, and the looseness of its hanging leaves, characterize both these trees with so much precision, that at any distance at which the eye can distinguish the form, it may also distinguish the difference. The elm has not so distinct a character. It partakes so much of the oak, that when it is rough and old, it may easily, at a little distance, be mistaken for one; though the oak—I mean such an oak as is strongly marked with its peculiar character—can never be mistaken for the elm. This is certainly a defect in the elm; for strong characters are a great source of picturesque beauty.

This defect, however, appears chiefly in the skeleton of the elm. In full foliage, its character is better marked. No tree is better adapted to receive grand masses of light. In this respect, it is superior both to the oak and the ash. Nor is its foliage, shadowing as it is, of the heavy kind. Its leaves are small, and this gives it a natural lightness; it commonly hangs loosely, and is in general very picturesque.

The elm naturally grows upright; and when it meets with a soil it loves, rises higher than the generality of trees; and after it has assumed the dignity, and hoary roughness of age, few of its forest brethren (though, properly speaking, it is not a forester) excel it in grandeur and beauty.

The elm is the first tree that salutes the early spring with its light and cheerful green — a tint which contrasts agreeably with the oak, whose early leaf has generally more of the olive cast. We see them sometimes in fine harmony together, about the end of April and the beginning of May. We often also see the elm planted with the Scotch fir. In the spring, its light green is very discordant with the gloomy hue of its companion; but as the year advances, the elm leaf takes a darker tint, and unites in harmony with the fir. In autumn also, the yellow leaf of the elm mixes as kindly with the orange of the beech, the ochre of the oak, and many of the other fading hues of the wood.

A species of this tree called the Wych Elm, is perhaps generally more picturesque than the common sort, as it hangs more negligently, though at the same time, with this negligence, it loses in a good degree that happy surface for catching masses of light which we admire in the common elm. We observe also, when we see this tree in company with the common elm, that its bark is somewhat of a lighter hue. The wych elm is a native of Scotland, where it is found not only in the plains and valley of the Lowlands, but is hardy enough to climb the steeps, and flourish in the remotest Highlands, though it does not attain, in those climates, the size which it attains in England. Naturalists suppose the wych elm to be the only species of this tree which is indigenous to our island.

We are disposed to think that Mr Gilpin hardly does justice to the elm. For our parts, we consider the wych, or Scottish elm, as one of the most beautiful trees in our British sylva. The trunk is so bold and picturesque in form, covered, as it frequently is, with huge excrescences ; the limbs and branches are so free and graceful in their growth, and the foliage is so rich, without being heavy or clumpy as a whole, and the head is generally so finely massed, and yet so well broken, as to render it one of the noblest of park trees ; and when it grows wildly amid the rocky scenery of its native Scotland, there is no tree which assumes so great or so pleasing a variety of character. Our associations with it in such scenes lead us to prize it highly.

There is another variety also of this tree, called the Weeping Elm. Whether its timber is less useful, or it is propagated with greater difficulty, I know not ; but I have rarely met with it. The finest of this species I have seen grow in St John's walks at Cambridge. An eye accustomed to the tree, will easily perceive that its branches are more pensile, and its leaves of smaller dimensions, than those of the common elm.

An old elm, which grew formerly in the grove at Magdalen College in Oxford, was by some accident disbarked entirely round. A malady of this kind is generally reckoned fatal to all the vegetable race. But this tree flourished after it, as well as any tree in the grove. The probable reasons of this uncommon appearance are given us by the learned author of the *Natural History of Oxfordshire*, in a long philosophical inquiry, which may be found in the 166th page of that work. I have heard also, but I know not on what authority, of another disbarked elm growing at this time vigorously at Kensington.

It is manifest that the external bark only could have been removed in these instances; but even with this allowance, we consider them to be very remarkable.

The genus *Ulmus* is of the class and order *Pentandria digynia*. There are only two distinct species of elm indigenous to Great Britain. These are the *Ulmus campestris*, or common elm tree, and the *Ulmus montana*, the broad-leaved, or wych elm, or wych hazel. In the first of these the flowers are crowded, and nearly sessile, whilst in the last mentioned tree the flowers are lax and pedunculated. The first of the two is also called the fine-leaved elm, or hazel-leaved elm, or the narrow-leaved elm, or the south country elm, or English elm. The last of the two is also called the coarse-leaved elm, the chestnut-leaved elm, or the north country elm, or the Scottish elm. Dr Walker considers the English elm as not indigenous, and believes that it was brought originally from the Holy Land; and, indeed, it would be difficult to point out any situation where it has the appearance of having sprung up from seeds, though it is said to be common in the woods of the north-west of England.

There are many varieties of these two elms, with shades of difference so very minute and so little striking, that Hanbury, when writing of this tree, says, "It would be endless, as well as needless, to enumerate the sorts of elms. I have counted in my time more than twenty, in woods, hedges, &c. that have fallen in my way when in quest of plants." The fact is, that no genus of plants whatever is more incomprehensible to the botanist than the *Ulmus;* for although we see, among the cultivated elms of this country, individuals as different from each other as are some individuals of distinct genera, yet every one who has attended closely to the different kinds of elms growing in different parts of the kingdom, must have observed such a chain of intermediate kinds, as renders classification extremely difficult; and must frequently have met with an individual which he was puzzled to find a name for. Linnæus, having doubtless experienced this difficulty, threw the whole of our cultivated elms into one mass, and classed them all as one species under the name of the *Ulmus campestris.* The other two species of Linnæus, the *Ulmus americana*, and the *Ulmus pumila*, are foreign. Many of the varieties of elms are noticed by Miller and Hanbury; but the two we have named as the *Ulmus campestris* and *Ulmus montana*, have marked botanical distinctions, which leave no doubt of their being distinct British species; and all botanists now admit them to be so. One great error seems yet to prevail, and that is with regard to the comparative value of the timber of these two trees. Most botanists, with Sir Edward Smith at their head, seem to give the preference to the timber of the *Ulmus campestris.* Of it Smith says, "*Lignum durum tenax;*" and when speaking of the *montana*, he says, "*Lignum minus solidum.*" But for our part, our experience leads us to give the preference to the *Ulmus montana;* and we have great pleasure in supporting our judgment by the following quotation from that most intelligent, judicious, and experienced planter, Mr Sang, who thus speaks of the two trees:—"The timber of the English, (*Ulmus campestris,*) compared with that of the Scottish elm, (*Ulmus montana,*) is very inferior, both in durability and in value. In the sales of these timbers, the English elm, among good judges, seldom brings more than a half, or even a third part of the price of the Scottish elm, although both be of equal sizes and ages. Prejudice, no doubt, may have some share in this matter; but certainly the timber of the one is very inferior to that of the other. Indeed, if it be considered that the one species is exceedingly hard, and universally raised from seeds, and that the other may even be termed delicate, at least in Scotland, there can be little hesitation in determining which deserves the preference as a forest tree. The English elm is too frequently raised from suckers. These never make the best trees; and they always produce suckers from their roots, and disfigure the grounds in which they stand. When intended as ornamental trees for the park or lawn, they ought to be budded or grafted on the Scottish elm: in this way, trees of superior vigour and figure would be obtained, and which would never produce a sucker." It is remarkable that Hanbury recommends the grafting of the true English elm, as he calls it, on the wych, or Scottish elm, to improve the former tree. "The stocks," say he, "for the purpose, should be the broad-leaved wych elm, which must be raised from the seed and planted out. When they have grown two years in the nursery, they will be of proper size to receive the graft; and the last week in January is the best time for the work,"—and so he goes on to give a detailed account of the process at much too great a length to be extracted; but what is chiefly for our purpose, he concludes thus:—"This practice of grafting will be found a valuable improvement of the English elm, if we consider the nature of the wych elm, on which it is grafted. First, the wych elm will not only grow to the largest size of all the sorts, but it will grow the fastest. However, this is not to be wondered at, if we examine the root, which we shall find more fibrous, and the pores larger and in greater numbers than in any of the other elms. Now, as all roots are of a spungy nature, to receive the juices of the earth, for the nourishment and growth of the tree, that tree must necessarily grow the fastest, whose root is most spungy and porous; and, therefore, the true English elm, being set upon the root of the wych elm, a greater quantity of nutriment is received from the earth for its increase, in proportion as the root of the wych elm is more spungy and porous than that of its own sort. Thus the English elm, on this basis, will arrive at timber many years sooner than those raised by layers, and be also forced to a greater size. If we consider, too, that the root of the wych elm is so excellent in its kind, as to answer the purposes of all the other kinds."

In addition to the authority quoted in support of the fact of the superiority of the *Ulmus montana*, we may mention the ancient statute enjoining the use of bows, in which the wych hazel is mentioned, whilst the common elm is left altogether unnoticed. The *Ulmus montana* is not only very superior to the *Ulmus campestris* in its beauty as a living object, and as timber, but it grows to be a much larger tree. The famous English elm, called Piffe's Elm, in the Vale of Gloucester, measured, at five feet from the ground, about sixteen feet in circumference, whilst the wych elm at Bradley Church in Suffolk, measured at the same height, was found to be nearly twenty-seven feet. Cook also mentions a wych elm, felled in Sir Walter Bagot's park, in Staffordshire, which was seventeen feet diameter at the stock, and produced, top and lop included, ninety-seven tons of timber. The Trysting Elm, in the parish of Roxburgh, in

Teviotdale, measured, at four feet from the ground, thirty feet in circumference.

" In regard to the fine-leaved, or English elm," says Mr Sang, " we may remark, that although there are many English elms in Scotland, yet there are very few Scotch elms, comparatively speaking, in England. We hardly observed a Scotch elm after leaving Northumberland, going southward, and until we entered Cumberland, returning northward. Indeed, it may be said, that the rough-leaved, or Scotch elm, of any useful size, is to be found only on the north side of the Tweed.

" The fine-leaved, or English elm," continues Mr Sang, " is very ornamental, when it stands detached and free, as by the Thames, at Hampton Court, at Bushy, at Richmond, and by the highroad about half way between Cheltenham and Tewksbury. It affords an agreeable shade, nearly equal to that of the lime, when formed into avenues, as at Windsor, York, and Cheltenham. It may be useful, but as it is generally treated all over England, it is an ugly and disgusting hedge timber. Nothing, certainly, can be more tiresome, in travelling through the flat countries, than the continual succession of meagre elms, like poles; from which we are now and then relieved by Lombardy poplars — which are worse, if possible; though occasionally, no doubt, by a much finer plant than either, the elder." We heartily join with Mr Sang in his exclamation against the formality of these poled elms. But, at the same time, we must say, that they are by no means so bad as the trimmed trees of France; and, indeed, instances are not awanting, where, when the trees are grouped, and the heads left umbrageous, very picturesque effects are produced by a four or five years' restoration of the lateral branches, by the efforts of Nature.

The timber of both the British elms is used in all works where it may be continually dry or wet; as, for water-pipes, pumps, water-wheels, &c. It is also very generally used for blocks, weather-boarding, and for common cabinet work. The knotty parts, like those of ash, are used for naves and bubs; and when cut from the older and larger trees, they are so richly veined as to make beautiful tables, for which purpose they and the similar cuts of very old knotty oak, are now very much in request. " Elm is a timber of most singular use," says old Evelyn, whom we have a peculiar pleasure in quoting, " especially where it may be continually dry or wet in extremes; therefore proper for water-works, mills, pipes, pumps, ship planks beneath the water-line; and some that has been found buried in boggs, has turned like the most polished and hardest ebony, only discerned by the grain. Also for wheel-wrights, kerbs of coppers, featheridge and weather-boards, dressers, and sundry other employments. It makes also the second sort of charcoal; and, finally, (which I must not omit,) the use of the very leaves of this tree, especially of the female, is not to be despised; for, being suffered to dry in the sun, upon the branches, and the spray shriped off, about the decrease in August, (as also where the suckers and stolones are supernumerary, and hinder the thriving of their nurses,) they will prove a great relief to cattel in winter, when hay and fodder is dear; they will eat them even before oates, and thrive exceedingly well with them; remember only to lay your boughs up in some dry and sweet corner of your barn. It was for this the poet praised them; and the epithete was advised—

———— fœcundæ frondibus ulmi.

In some parts of Herefordshire they gather them in sacks for their swine, and other cattel, according to this husbandry."

The following are the elms noticed by Michaux as being American trees:

Ulmus americana, the White Elm. This tree is found over an extensive tract of the North American continent. The leaves are four or five inches long. The flowers are small, and of a purple colour, on short slender footstalks. It grows in low, humid, substantial soils. On the banks of the Ohio and Mississippi it is sometimes four feet in diameter; and in the primitive forests, it is found towering to the height of a hundred feet. Two small limbs, four or five feet long, grow in a reversed position, near the first ramification, and descend along the trunk. Bark white, deeply furrowed.

Ulmus alata, the Wahoo, a native of the Carolinas and Georgia, &c. grows on the banks of rivers and swamps, to the height of eighty feet. The leaves are borne in short petioles, and are oval, and denticolated, and smaller than those of the white elm. The branches are furnished throughout their whole length, on two opposite sides, with a fungous appendage, two or three lines wide, from which the name of *alata*, winged, has been given to the species. The timber is fine grained, and more compact and heavier than that of the white elm; the heart is a dull red, approaching to chocolate colour.

Ulmus rubra, the Red Elm, Slippery Elm, or Moose Elm. This tree is found in almost all parts of the United States and Canada. It requires a substantial soil, free from moisture. It grows fifty or sixty feet high. In the winter, it is distinguished from the white elm by its buds, which are larger and rounder; and, a fortnight before their development, they are covered with a russet down. The flowers are aggregated at the extremity of the young shoots. The leaves are oval-acuminated, doubly denticulated, and larger, thicker, and rougher than those of the white elm. The bark upon the trunk is brown. The heart is coarser grained, and less compact than in the white elm, and it is of a dull red tinge. The timber is altogether stronger and more durable than that of the white elm, and, on the banks of the Ohio, it is much used in the construction of houses, and even of vessels. It is the best wood of the United States for blocks. Though superior to the white elm, it is not equal to our European species.

Michaux also notices the *Ulmus suberosa*, or Dutch Elm, distinguished from the common European elm by its leaves, which are larger, thicker, rugged on both surfaces, and borne on short petioles. The flowers are of a lighter tint, and the seeds are larger. In the winter, the Dutch elm is recognized by its round buds, and by the thickness of the shoots of the preceding year. It very much resembles the red elm of the United States in its flowers, foliage, and fruit. The Dutch elm attains a very lofty height and a considerable diameter, but its wood is supposed to be softer than the common elm.

The oak, the ash, and the elm, are commonly dignified in our English woods, as a distinct class, by the title of *timber trees*. But the picturesque eye scorns the narrow conceptions of a timber merchant, and with equal complacency takes in the whole offspring of the wood; though it must be owned, the three species already characterized, are both the most useful and the most picturesque. We esteem it fortunate when the idea of picturesque beauty coincides with that of utility. The two ideas are often at variance. When they are so, we cannot help it, but must feel it with regret.

After timber trees, the Beech deserves our notice. Some, indeed, rank the beech among timber trees; but, I believe, in general it does not find that respect; as its wood is of a soft spungy nature; sappy, and alluring to the worm.

In point of picturesque beauty I am not inclined to rank the beech much higher than in point of utility. Its skeleton, compared with that of the trees we have just examined, is very deficient. Its trunk, we allow, is often highly picturesque. It is studded with bold knobs and projections; and has sometimes a sort of irregular fluting about it, which is very characteristic. It has another peculiarity also, which is sometimes pleasing, — that of a number of stems arising from the root. The bark, too, wears often a pleasant hue. It is naturally of a dingy olive; but it is always overspread, in patches, with a variety of mosses and lichens, which are commonly of a lighter tint in the upper parts, and of a deep velvet-green towards the root. Its smoothness also contrasts agreeably with these rougher appendages. No bark tempts the lover so much to make it the depository of his mistress's name. It conveys a happy emblem:

——crescent illæ; crescetis amores.

In a chequered grove, we sometimes see very beautiful effects produced by the brilliant sparkling lights which are caught by the stems of beeches.

But having praised the trunk, we can praise no other part of the skeleton. The branches are fantastically wreathed and disproportioned, twining awkwardly among each other, and running often into long unvaried lines, without any of that strength and firmness which we admire in the oak; or of that easy simplicity which pleases in the ash: in short, we rarely see a beech well ramified. In full leaf it is equally unpleasing: it has the appearance of an overgrown bush. Virgil, indeed, was right in choosing the beech for its shade. No tree forms so complete a roof. If you wish either for shade or shelter, you will find it best

——patulæ sub tegmine fagi.

This bushiness gives a great heaviness to the tree, which is always a deformity. What lightness it has, disgusts. You will sometimes see a light branch issuing from a heavy mass: and though such pendent branches are often beautiful in themselves, they are seldom in harmony with the tree. They distinguish, however, its character, which will be seen best by comparing it with the elm. The elm forms a rounder, the beech a more pointed foliage. But the former is always in harmony with itself.

Sometimes, however, we see, in beeches of happy composition, the foliage falling in large flocks, or layers elegantly determined; between which, the shadows have a very forcible effect, especially when the tree is strongly illumined. On the whole, however, the massy, full-grown, luxuriant beech, is rather a displeasing tree. It is made up of littlenesses, seldom exhibiting those tufted cups, or hollow dark recesses, which dispart the several grand branches of the more beautiful kinds of trees.

Contrary to the general nature of trees, the beech is most pleasing in its juvenile state, as it has not yet acquired that heaviness which is its most faulty distinction. A light, airy young beech, with its spiry branches hanging, as I have just described them, in easy forms, is often beautiful. I have seen also the forest beech, in a dry, hungry soil, preserve the lightness of youth in the maturity of age.

After all, however, we mean not to repudiate even the heavy luxuriant beech in picturesque composition. It has sometimes its beauty, and oftener its use. In distance, it preserves the depth of the forest;* and even on the spot, in contrast, it is frequently a choice accompaniment. In the corner of a landscape, when we want a thick heavy tree, or part of one at least, which is often necessary, nothing answers our purpose like the beech. But at present we are not considering the beech in composition, but only as an individual; and in this light it is in which we chiefly conceive it as an object of disapprobation.

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* We call the forest *deep*, when we cannot see through it; so that at a distance a thin wood of beeches will have the effect of a large one.

We should not conclude our remarks on the beech without mentioning its autumnal hues. In this respect it is often beautiful. Sometimes it is dressed in modest brown, but generally in glowing orange; and in both dresses its harmony with the grove is pleasing. About the end of September, when the leaf begins to change, it makes a happy contrast with the oak, whose foliage is yet verdant. Some of the finest oppositions of tint which perhaps the forest can furnish, arise from the union of oak and beech. We often see a wonderful effect from this combination. And yet, accommodating as its leaf is in landscape, on handling, it feels as if it were fabricated with metallic rigour. In its autumnal state it almost crackles:

——— Leni crepitabat bractea vento.

For this reason, I suppose, as its rigour gives it an elastic quality, the common people in France and Switzerland use it for their beds.

I have dwelt the longer on the beech, as, notwithstanding my severity, it is a tree of picturesque fame, and I did not choose to condemn without giving my reasons. It has acquired its reputation, I suppose, chiefly from its having a peculiar character; and this, with all its defects, it certainly has. I may add also, that if objects receive merit from their associated, as well as from their intrinsic qualities, the dry soil, and salubrious air in which the beech generally flourishes, give it a high degree of estimation.

It must be observed here, that this is one of the instances in which the author's love for the art of representing the objects of Nature with the pencil, and his associations with the pleasures of that art, have very much led him away. We are disposed to go along with him in a great measure, so far as we, like him, draw our associations with this tree from the same source. But we conceive we have much the advantage of him, in being able to indulge in the pleasure arising from the contemplation of a noble beech as one of the most magnificent objects of God's fair creation. Some of the very circumstances which render it unpicturesque, or, in other words, which render it an unmanageable subject of art, highly contribute to render it beautiful. The glazed surface of the leaf, which brightly reflects the sun's rays, and the gentle emotions of light, if we may venture so to express ourselves, which sometimes steal over the surface of its foliage with the breathing of the balmy breeze, although difficult, or rather almost impossible, to be represented by the artist, are accidents which are productive of very pleasing ideas in the mind of the feeling observer of Nature. "They make spreading trees, and noble shades," says old Evelyn, "with their well furnished and glistering leaves, being set at forty feet distance. But they grow taller and more upright in the forests, where I have beheld them, at eight and ten feet, shoot into very long poles; but neither so apt for timber nor fuel. In the valleys, where they stand warm and in consort, they will grow to a stupendous procerity, though the soil be stony and very barren; also upon the declivities, sides, and tops of high hills." We remember to have been much gratified with the effect of this tree, where all other trees were absent,—it was in Italy, on the very summit of the Val-ombrosan Apennine. During our progress through the scorching plains of Italy—nay, we may safely say, after bidding adieu to England—we had seen nothing to resemble the greensward of a British lawn. What was our agreeable surprise, then, when, on emerging from the upper boundary of those forests of chestnut and other trees which there cover the declivities of the mountains, we entered at last on a beautiful sloping and undulated lawn, composed of shaven turf of the richest possible verdure, every where surrounded by fine spreading beeches, running into the open ground in irregular promontaries, and receding in bays, in which the velvet surface of the pasture stole gradually into the cool shade! The whole was like a scene of magic. It was like a perfect and well kept English park,—and this produced, by the enchanting hand of Nature, on the summit of the Apennines. We selected the most pleasing spot we could find on the very top, and there, under the umbrageous cover of one of the largest trees, we eat our well earned meal, where the boundless prospect gave to our wondering and delighted eyes the view of the waters of the Mediterranean on the one side, and those of the Adriatic on the other. We must confess, that we have hardly ever seen a beech tree since, without its bringing to our recollection the enjoyments of that most celestial day, and the reader will easily be able to trace that combination of pleasing associations which made it so.

It seems to be a matter of very great doubt, whether the *Fagus sylvatica*, or Beech Tree, (of the class and order *Monoecia polyandria*,) be in reality a native of Britain. Cæsar tells us, that he could not find the *Fagus* any where in the country he penetrated; and as he was in the warmest and richest parts of it, there is great probability that the tree he mentions was not to be found in it. But then comes the difficulty, whether the *Fagus* of the Romans was the tree known by the modern name of beech? This is thought not to be probable; and, if so, then are all our classical associations with the modern beech destroyed, and, in exchange, we may be left the right of claiming this tree as indigenous to our soil. One thing is clear, that the beech, if not originally a British tree, was at least introduced into this country long before the written or traditionary history of British trees.

The beech grows to a great size in many situations, and particularly where it is sheltered; and when the trunk acquires a great bulk, it becomes valuable, as timber, for many purposes. Evelyn says of it,—"The beech serves for various uses of the housewife; with it the turner makes dishes, trays, bowls, kimbs for buckets, and other utensils, trenchers, dresser-boards, &c.; likewise for the wheeler, joyner, and upholster for sellyes, chairs, stools, bed-steads, &c.; for the bellows-maker and husbandman, his shovel and spade-graffs; for fuel, billets, bavin, and coal, though one of the least lasting; not to omit even the very shavings, for the fining of wines. Of old, they made their *vasa vindimiatoria* and *corbes messoriæ*, (as we our pots for strawberries,) with the rhind of this beech; and that curiously wrought cup which the shepherd in the Bucolicks wagers withal, was engraven by Alcimedon upon the bark of this tree. You would not wonder to hear one deplore the so frequent use of this wood, if you did not consider that the industry of France furnishes that country for all domestic utensils with excellent wallnut,—a material infinitely preferable to the best beech, which is, indeed, good only for shade and for fire, as being brittle, and exceedingly obnoxious to the worm. But whilst we thus condemn the timber, we must not forget to praise the *mast*, which fats our swine and deer, and hath, in some families, even supported men with bread. Chios endured a memorable siege by the benefit of this *mast;* and, in some parts of France, they now grind the bark in mills; it affords a sweet oyl, which the poor people eat most willingly. But there is yet another benefit which this tree presents us,—that its very leaves, which make a natural and most agreeable canopy all the summer, being gathered about the fall, and somewhat before they are much frost-bitten, afford the best and easiest mattresses in the world, to lay under our quilts instead of straw, because, besides their tenderness and loose lying together, they continue sweet for seven or eight years long, before which time, straw becomes musty and hard. Thus they are used by divers persons of quality in Dauphine; and in Switzerland I have sometimes lain on them, to my great refreshment; so as of this tree it may properly be said,—

—— Sylva domus cubilia frondes.

Swine may be driven to *mast* about the end of August." We can, from our own experience, bear testimony to the truth of what Evelyn here says, as to the excellence of beech leaves for mattresses. We used always to think that the most luxurious and refreshing bed is that which prevails universally in Italy, which consists of an absolute pile of mattresses filled with the elastic spathe of the Indian corn,—we mean that delicate blade from which the large head of the plant bursts forth. These beds have the advantage of being soft as well as elastic, and we have always found the sleep enjoyed on them to be peculiarly sound and restorative. But the beds made of beech leaves are really no whit behind them in these qualities, whilst the fragrant smell of green tea, which the leaves retain, is most gratifying. The only objection to them is, the slight crackling noise which the leaves occasion as the individual turns in bed; but this is no inconvenience at all, or if so in any degree, it is an inconvenience which is much overbalanced by the advantages of this most luxurious couch. The beech timber lasts long when kept constantly wet, and it is therefore well adapted for the sills and floors of locks, for the keels of vessels, and for the planking in the parts kept constantly under water. The greater part of the firewood of Paris is beech.

The Purple Beech is a beautiful ornamental variety, of unknown origin, and there are divers shades of it. Although hitherto chiefly confined to the pleasure ground, it promises to become of sufficient importance for the decoration of the park. Mr Sang tells us, that "a tree of the purple variety, in the gardens of Messrs Telford, within the city of York, and another in the pleasure grounds at Enville, have assumed such tree-like forms, each being full thirty feet high, that such an expectation may reasonably be entertained; and the more especially, as we know of several, even in Scotland, from twenty to thirty feet high. It must, however, be observed, that the purple beech plants most proper for the park or the lawn, or indeed for any situation where it is required that they should grow to a great size, are such as are grafted or budded on the common sort. Those raised by layers grow more dwarfish, and therefore should be planted in situations where dwarf trees or bushes are required.

Michaux says, that "two species of beech are found in Canada and the United States, which have hitherto been treated by botanists as varieties; but my own observations confirm the opinion of the inhabitants of the northern states, who have long since considered them as distinct species, and given them the names of White Beech, and Red Beech, from the colour of their wood."

Fagus sylvestris, the White Beech. A deep, moist soil, and a cool atmosphere, are necessary to the utmost expansion of the white beech, and accordingly it is most multiplied in the middle and western states. The finest are found on the banks of the Ohio, between Gallipolis and Marietta, where Michaux has measured trees which were above a hundred feet high, and eleven feet in circumference. In these forests, where the beeches vegetate in a deep and fertile soil, their roots sometimes extend to a great distance over the surface, covering the ground with so densely entangled a reticulation, as to embarrass the steps of the traveller, and to render the land peculiarly difficult to clear. The white beech is more slender and less branchy than the red beech; but its foliage is superb, and its general appearance magnificent. The leaves are oval-acuminate, smooth, shining, and bordered in the spring with a soft hairy down. The sexes are borne by different branches of the same tree. The barren flowers are collected in pendulous globular heads, and the others are small, and of a greenish hue. The fruit is an erect capsule, covered with loose flexible spines, which divides itself at maturity into four parts, and gives liberty to two triangular seeds. The bark on the trunk of the oldest trees is smooth, thick, and entire, and of a gray colour. The perfect wood bears but a small proportion to the sap, and frequently occupies only three inches in a trunk eighteen inches in diameter. The specific name of White Beech is derived from the colour of the alburnum, for trees of the same genus are more frequently distinguished in the United States by the complexion of their woods, than by the difference in their foliage and flowers. Where oak bark is rare, the bark of this tree is used for tanning. The leather made with it is white and serviceable, though inferior to that prepared with oak bark.

Fagus feruginea, the Red Beech. This tree is almost exclusively confined to the north-eastern parts of the United States, and to Canada, New Brunswick, and Nova Scotia. It sometimes constitutes extensive forests, the finest of which grow in fertile, level, or gently sloping lands, proper for the culture of corn. Its name is derived from the colour of its wood, and not from that of its leaves, as is the practice with trees in Europe, where the purple, or red beech, already noticed, is so much cultivated. This tree is liker the beech of Europe than it is to the American species. It equals the white beech in diameter, but not in height; and as it ramifies nearer the earth, it has a more massive and tufted summit. Its leaves are equally brilliant, and they are larger, and thicker, and have longer teeth. Its fruit is of the same form, but only half as large, and it is garnished with firmer and less numerous points. The wood is superior. A red beech, fifteen or eighteen inches in diameter, consists of three or four inches of sap, and thirteen or fourteen inches of heart, the inverse of which proportion is found in the white beech. Besides this, the wood of the red beech is stronger, tougher, and more compact. Where oaks are rare, it is used for the lower parts of the frames of vessels.

Michaux says, that "the European beech bears so strict an analogy to the red beech, that it may be useful to notice its properties, its uses, and the means by which its duration is secured in important structures. Experience has demonstrated the advantage of felling the beech in the summer, while the sap is in full circulation: cut at this season, it is very durable; but felled in the winter, it decays in a few years. The logs are left several months in the shade before they are hewn, care being taken that they do not repose immediately upon the ground; after which they are fashioned according to the use for which they are destined, and laid in water for three or four months. They are said to be rendered, in this way, inaccessible to worms." The phrase "inaccessible to worms," is more popular than scientific. It is well known that the worms are generated in the wood, the eggs being deposited there by some of the many families of timber-borers, among which may be mentioned the *Apate*, *Bostrichus, Hylessinus, Hylurgus, Tomicus, Platypus, Scolytus, Phlostribus*, the *Lucanidæ*, or stag-beetle tribe, and the capricorn beetles, including the Fabrician genera of *Prionus, Cerambyx, Lamia, Stenocorus, Colopus, Rhagium, Gnoma, Saperda, Callidiam*, and *Clytus*. All these prey upon timber whilst in the larva state. The insect deposits its egg by perforation, and then the worm is no sooner hatched than it begins the work of destruction, with a voracity almost unequalled in the history of animal life. Mr Spence, in a note on the *Elements of Entomology*, tells us, that the larva of the *Cerambyx bajulus*, which does considerable injury to the wood work of the roofs of houses in London, has been actually known to make its way out from the fir beams where it has lived and undergone its final metamorphosis, by perforating sheets of lead of one-sixth of an inch in thickness ; and the author of the note in question declares himself to be in possession of a specimen of such a sheet of lead, given him by Sir Joseph Banks, which, though only eight inches long and four broad, is thus pierced with twelve oval holes, of some of which the longest diameter is a quarter of an inch !

We confess ourselves to be a good deal surprised at the fact stated by Michaux, that the timber of the beech is better cut whilst filled with sap. It is natural to suppose, as is the case with all other watery sapped trees, that when such wood is cut at that season, the drying up of the sap must leave a vacuity within each tubular fibre, which must very much weaken the whole ligneous mass. It is different with the pine tribe, in which the resinous and pitchy juices, being coagulated within the tubes, must tend very much to the preservation of the timber. With the fir tribe, therefore, we can easily see a good reason for felling the timber whilst the tree is full of its resinous sap. But if the fact regarding the beech actually be as stated by Michaux, we must believe that its watery juices contain some very peculiar chemical principles, which it would be well worth the labour of some indefatigable chemist to detect.

Very nearly allied to the beech, in a picturesque light, is the Hornbeam. It grows like it, when it is suffered to grow ; but it is generally seen only in clipped hedges, where it is very obedient to the knife ; and with a little care will never presume to appear out of form. Its wood is white, tough, and flexible.

This tree is of the class and order *Monoecia polyandria:*—"The hornbeam," says Evelyn, "in Latin, the *Carpinus*, is planted of sets; though it may likewise be raised from the seeds, which, being mature in August, should be sown in October; but the more expeditious way is by sets about an inch diameter, and cut within half a foot of the earth. Thus it will advance to a considerable tree. The places it chiefly desires to grow in are in cold hills, and in the barren and most exposed parts of the woods." We do not think that the hornbeam has much in its natural form to excite pleasing ideas; it is, what we should be disposed to call, rather a hard looking tree in character. But yet, as antiquaries, we never look upon it without a certain degree of pleasure, remembering, as we do, that it was one of the most important subjects of the topiary art, and that our ancestors used it for producing an artificial climate around their ancient castles, by planting it in long lines, and trimming it into vegetable walls of the most mathematical exactitude of plan. "Amongst other uses," says Evelyn, "such as mills, (for which it excels either yew or crab,) yoak timber, (whence, of old, it was called ζυγια,) heads of beetles, stocks, and handles of tools, (for all which purposes its extreme toughness commends it to the husbandman,) being planted in small fosses, or trenches, at half a foot interval, and in the single row, it makes the noblest and the stateliest hedges for long walks in gardens, or parks, of any tree whatsoever, whose leaves are deciduous, and forsake their branches in winter; because it grows tall, and so sturdy as not to be wronged by the winds. Besides, it will furnish to the very foot of the stem, and flourishes with a glossie and polished verdure, which is exceeding delightful, of long continuance, and of all other of the harder woods, the speediest grower; maintaining a slender, upright stem, which does not come to be bare and sticky in many years. That admirable *espaliere* hedge in the long middle walk of Luxembourg garden at Paris, (than which there is nothing more graceful,) is planted of this tree; and so is that cradle, or close-walk, with that perplext canopie, which covers the seat in his Majesty's garden at Hampton Court. These hedges are tonsile; but where they are maintained to fifteen or twenty foot height, (which is very frequent in the places before mentioned,) they are to be cut and kept in order with a scythe of four foot long, and very little falcated: this is fixed on a long sneed, or streight handle, and does wonderfully expedite the trimming of these and the like hedges."

The common hornbeam is the *Carpinus betulus* of Linnæus. It is a native tree, and when raised from seed, acquires the usual magnitude of the beech, to which it is so similar in appearance. Hanbury says that this tree is peculiarly grateful to hares and rabbits; and if so, the planting of it among other trees and shrubs might be the means of saving them from being injured by these creatures. It is said that deer do not like it.

The *Carpinus Americana*, or American Hornbeam, as described by Michaux, is found as far north as the provinces of Nova Scotia, New Brunswick, and Lower Canada; but it grows to greater perfection in New Jersey, and the southern states. It reaches to the height of thirty feet only, and may be rather considered as a tall shrub than a tree. It is met with at every step in the American forests. Its leaves are oval-acuminate, and finely denticulated. The sexes are united on the same stock, and the fertile flowers are collected in long loose, pendulous, leafy aments at the extremity of the spray. The scales or leaves which surround them are furnished at the base with a hard oval seed.

Carpinus ostrya, the Iron Wood. East of the Mississippi the iron wood is diffused throughout the United States and the provinces of New Brunswick, Nova Scotia, and Lower Canada. In the district of Maine, it is called Lever Wood, and by the French of the Illinois, *Bois Dur*. It is disseminated throughout the forests, but it rarely rises above forty feet high, and twelve or fifteen inches in diameter. The leaves are alternate, oval-acuminate, and finely and unequally denticulated. The fertile and the barren flowers are borne at the extremity of different branches of the same tree, and the fruit is in clusters like hops. The small, hard, triangular seed is contained in a species of reddish, oval, inflated bladder, covered at the age of maturity with a fine down, which causes a violent irritation of the skin, if carelessly handled. In the winter, the tree is distinguished by its smooth grayish bark, finely divided, and detached in strips not more than a line in breadth. The wood is perfectly white, compact, fine grained, and heavy. The concentrical circles are closely compressed, and their number, in a trunk of four or five inches in diameter, evinces the length of time necessary to acquire this inconsiderable size. The iron wood flourishes in France: several stocks, fifteen or twenty feet in height, annually fructify on the ancient estate of Duhamel du Monceau, and young plants, the produce of self sown seeds, are found in the vicinity. It is, therefore, one of the exotic trees which might be propagated with advantage in Europe.

The deciduous trees which I have described, hold certainly the first rank. I shall, however, touch on a few others, which, though neither so beautiful, nor so characteristic, are however worth the notice of the picturesque eye.

Among these, the first place is due to two noble trees of the same kind, both naturalized in England, though from different extremes of the globe, — the Occidental and the Oriental Plane.

The Occidental Plane is a native of America, but has long been known in England, where it attains a considerable growth, though inferior, no doubt, to what it attains in its native soil. Its stem is very picturesque. It is smooth, and of a light ash colour, and has the property of throwing off its bark in scales; thus naturally cleansing itself, at least its larger boughs, from moss, and other parasitical encumbrances. This would be no recommendation of it in a picturesque light, if the removal of these encumbrances did not substitute as great a beauty in their room. These scales are very irregular, falling off sometimes in one part, and sometimes in another; and as the under bark is, immediately after its excoriation, of a lighter hue than the upper, it offers to the pencil those smart touches which have so much effect in painting. These flakes, however, would be more beautiful if they fell off in a circular form, instead of a perpendicular one. They would correspond and unite better with the circular form of the bole.

No tree forms a more pleasing shade than the occidental plane. It is full leafed, and its leaf is large, smooth, of a fine texture, and seldom injured by insects. Its lower branches, shooting horizontally, soon take a direction to the ground; and the spray seems more sedulous than that of any tree we have, by twisting about in various forms, to fill up every little vacuity with shade. At the same time, it must be owned, the twisting of its branches is a disadvantage to this tree, as we have just observed it is to the beech, when it is stripped of its leaves and reduced to a skeleton. It has not the natural appearance which the spray of the oak, and that of many other trees, discovers in winter. Nor indeed does its foliage, from the largeness of the leaf and the mode of its growth, make the most picturesque appearance in summer. One of the finest occidental planes I am acquainted with, stands in my own garden at Vicar's-hill; where its boughs, feathering to the ground, form a canopy of above fifty feet in diameter.

The Oriental Plane is a tree nearly of the same kind, only its leaf is more palmated, nor has it so great a disposition to overshadow the ground, as the occidental plane: at least I never saw any in our climate form so noble a shade, though in the East it is esteemed among the most shady and most magnificent of trees. Lady Craven speaks of some she saw in the Turkish dominions of a size so gigantic, that the largest trees we have in England, placed near them, would appear, she says, only like broomsticks.*

This tree, I believe, sheds its bark like the occidental plane; and the catkins of both are round, spicated balls, about the size of walnuts, and fastened together often in pairs, like chainshot. From this circumstance, the occidental plane is called in America, the Button-Tree. It flourishes there commonly by the sides of creeks and rivers, and is of quick growth. The oriental plane, I believe, loves the same soil; at least both trees in England are fond of moist ground.

Kempfer tell us,† that at Jedo, the capital of Japan, he found a species of this tree, the leaves of which were beautifully variegated, like the tricolor, with red, green, and yellow. An appearance of this kind is so contrary to Nature's usual mode of colouring the leaves of forest trees, that I should rather suspect Kempfer saw it, either when the leaves were in the wane, or blasted, or in some other unnatural state.

I may add, with regard to the occidental plane, and indeed, I believe, with regard to both the trees of this species, that their summer leaf wears so light a hue, as to mix ill with the foliage of the oak, the elm, and other trees. I have seen them on the skirts of a plantation, forming, during the summer, a disagreeable spot. In autumn, their leaves receive a mellow tint, which harmonizes very well with the waning colour of the wood.

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* Letter 47.

† See p. 524.

The *Platanus* is of the Linnæan class and order *Monoecia polyandria.* Of this family there are two distinct species,—those noticed by Mr Gilpin, and two varieties. The *Platanus occidentalis*, or American Plane, is described by Michaux with great accuracy. He says, that among deciduous trees, none in the temperate zones, either of the Old or the New Continent, equals the dimensions of the planes. The species which grows in the Western World, is not less remarkable for its amplitude, and for its magnificent appearance, than the plane of Asia, whose majestic form and extraordinary size were so much celebrated by the ancients. In the Atlantic States this tree is commonly known by the name of Buttonwood, and sometimes in Virginia by that of Water Beech. On the banks of the Ohio, and in Kentucky and Tenessee, it is most frequently called Sycamore, and by some the Plane tree. The French of Canada call it the Cotton tree. It is found as far north as the extremity of Lake Champlain, and at Montreal. The trees of this species, planted at Halifax for ornament, although forty feet in height, do not appear so vigorous as those in a less rigorous climate. Proceeding from Boston and the shores of Lake Champlain, towards the west and the south-west, the buttonwood is continually met with over a vast tract, comprising the Atlantic and Western States, and extending beyond the Mississippi. The luxuriance of the vegetation of this tree depends upon its having a loose, deep, and fertile soil, where the grounds are moist and cool. It is nowhere in the United States more abundant or more vigorous than along the great rivers of Pennsylvania and of Virginia, though the more fertile valleys of the west, especially those watered by the Ohio and its tributary rivers, are covered with dark forests, composed of trees of an extraordinary size. The soil in these places is remarkably deep, loose, and of a brown colour, and unctuous to the touch, being apparently formed of the slime deposited during past ages by the rivers during their annual inundations, together with the fallen leaves which every succeeding year strews on the ground. The great vegetative power which such a soil possesses, is quite inconceivable. Among the trees which compose these immense forests, the willow, the maple, and the buttonwood, are the least liable to injury from the continued presence of water, to which, by their position, they are habitually exposed. In these situations the buttonwood is always found to be the loftiest and largest tree of the United States. Often with a trunk of several feet in diameter, it begins to ramify at the height of sixty or seventy feet, near the summit of the other trees; and often the base divides itself into several trunks, equally vigorous and superior in diameter to all the surrounding trees. The Honourable Paul Dudley, in a letter to the Royal Society, says, that he "observed in New England one of these plane trees, nine yards in girth, which continued its bulk very high, containing, when felled, twenty-two loads of timber." But great as this is, it is nothing to what Michaux tells us. His father measured a buttonwood, growing on a little island in the Ohio, fifteen miles above the mouth of the Muskingum. The girth was taken at five feet from the ground, and it was found to be forty feet four inches, and consequently more than thirteen feet in diameter. And in 1802, whilst on a journey through the Western States, Mr Michaux himself found a huge buttonwood growing on the right bank of the Ohio, thirty-six miles from Marietta. He and his travelling companion measured it. Its base was swollen in an extraordinary manner, but at four feet from the ground, they found it to be forty-seven feet in circumference, or nearly sixteen feet in diameter. This tree, which still exhibited the appearance of vigorous vegetation, ramified at twenty feet from the ground. A buttonwood of equal size is mentioned as growing in Genessee. Although there is a very striking resemblance, in majesty of form and size of trunk, between the two species of plane, yet the American is thought to possess the richer foliage, and to afford a deeper shade than the Asiatic plane; its leaves are alternate, of a beautiful green, from five to ten inches broad, less deeply lobed, and formed with more open angles than those of the plane of the eastern continent. In the spring, the lower surface of these leaves is covered with a thick down, which disappears towards summer. In certain districts, where the tree is abundant, the inhabitants have an apprehension that this down, floating in the air, and taken with the breath into the lungs, causes consumption; but this, Michaux thinks, is a popular error. The sexes are separate on the buttonwood; but the male and female flowers are attached to the same peduncle, and not on different branches. The flowers are in the form of small balls. The fertile ones grow to the diameter of an inch, and are supported by peduncles two or three inches long. These balls fall in the course of the autumn and winter, and parting asunder, the seeds which compose them are scattered in the wind, by means of the plumy tuft by which they are surmounted. The buttonwood, in seasoning, becomes of a dull red; its grain is fine and close; and it is susceptible of a brighter polish than the wood of the beech, to which it bears some resemblance. Its concentric circles are divided into numerous sections, by fine medullary rays, extending from the centre to the circumference. When the trunk is sawn in a direction parallel to these rays, they appear larger than when it is cut parallel to the concentrical circles. The division should, therefore, be made in an intermediate direction, so that the spots may be of a proper size and at equal distances, which gives an elegant surface to the wood. This wood is supposed by the cabinetmakers of Philadelphia to have a tendency to warp: it is therefore chiefly used for bedsteads. The timber will not stand, when exposed; but will do very well for the joists of houses. The French of the Illinois sometimes make canoes of it; and Michaux mentions one made on the river Wabash, which was hollowed out of a single buttonwood, that measured sixty-five feet in length, and carried a cargo of nine thousand pounds weight.

The *Platanus Occidentalis* is found to be a very delicate tree in Britain. Mr Gilpin does not mention the size or age of that at Vicar's Hill. But though it was thriving so well in 1791, it may, by this time, have shared the fate of the other American planes domesticated in this island. The frost of June, 1809, fell upon the American planes, just as they were breaking out into leaf; and consequently killed the foliage. The trees afterwards pushed, late in the season; and were again encountered by an early autumnal frost, which a second time destroyed their feeble shoots. In this way their juices stagnated. The trees made an effort to push in 1810; but failing, Nature became exhausted, and they finally languished and died. Thus perished most of the largest American planes in England, as those in Richmond Park, at Kew, at Sion House, at Stowe, at Painshill, and other places. This tree is evidently less hardy than the Asiatic plane; because there were many instances, during the frost in 1809, where individuals of the two kinds of trees were standing near each other, that the *Occidentalis* was killed, whilst the *Orientalis* survived. It is very singular that the large trees of the *Occidentalis* perished, whilst the trees of twenty or twenty-five feet high were little hurt, and smaller ones not at all injured. Not a single oriental plane was injured throughout the whole country.

The *Platanus Orientalis*, the Asiatic, or Oriental Plane, grows readily, even in the valleys of Scotland, when happily situated as to soil. There was a fine specimen of the *Platanus Orientalis*, about fifty feet high, in the Edinburgh Botanical Garden; but, since the old garden was given up, and the new one formed, the tree has disappeared; whether by having been cut down, or by natural death, we have now no means of ascertaining. Mr MacNab, the superintendent of the garden, who performed such wonders in removing the trees, shrubs, and plants, of all descriptions and ages, and of great sizes, found this tree too large to transplant to so great a distance; and thus it has been unfortunately lost. Mr MacNab informs us that he planted a number of young Platanus trees in the new garden, some of which rose to fifteen feet high; but, from some inexplicable cause, they all died. We remember that a very fine specimen of this tree, known by the name of the Large Platanus, grew in the Haining, at Ormiston Hall in Haddingtonshire. It died suddenly, about fifteen years ago, when in full vigour.

This tree rises to a great height in its native country, and grows to a prodigious size. The stem is covered with a smooth bark, which falls off annually. The bark of the young branches is of a dark brown, inclining to a purple. The leaves are large, and palmated, being cut into five segments; their upper sides are of a deep green, and the under sides pale. The flowers are very minute; they come out in June, at the same time as the leaves. The ancients were very partial to this tree, which is not to be wondered at, when we consider how grateful its shade must have been, especially when it reached the magnitude of the trees alluded to by Lady Craven, or that of the famous Plane Tree of Lycia, mentioned by Pliny, the hollow in the trunk of which was capable of giving shelter for the night to Licinius Mutianus, the Roman Consul, and eighteen persons of his company. This cavity measured no less than seventy-five feet in circumference, from whence the magnitude of the whole stock may be imagined. The summit of the tree was sufficiently umbrageous, notwithstanding the internal decay of the trunk, for it is said to have borne a little forest aloft.

The two varieties of the *Platanus* are, the Maple-leaved Plane, and the Spanish Plane. The maple-leaved plane is said by Millar to be a seminal variety of the eastern plane. It differs from the two species already described, in the circumstance, that the leaves are not so deeply cut as those of the eastern plane, but much more deeply than those of the occidental plane. The footstalks of the leaves are much larger than those of either of the former, and the upper surface of the leaves is rougher.

The Spanish Plane has larger leaves than either of the other two sorts. They are divided in a similar manner to those of the maple-leaved plane. Some of them are cut into five, and others into three lobes. These are sharply indented at their edges, and of a light green. This is by some called the Middle Plane, from its leaves being shaped between those of the two first sorts. This, too, is probably a variety of the oriental plane. In the article on trees, in the second volume of the *Caledonian Horticultural Transactions*, these two varieties, the maple-leaved and the Spanish plane, are classed together, and another variety is mentioned under the name of the *Platanus cuneata*, or wave-leaved plane. Of this last, however, it is said that it grows much less freely, and scarcely attains to the size of a tree.

The Poplar tribe shall be considered next. They are numerous, and some of them I have thought picturesque. They are at least stately trees; but their thin quivering foliage is neither adapted to catch masses of light, like that of the elm; nor has it the hanging lightness of the ash. Its chief use in landscape is to mix as a variety, in contrast with other trees.

Within these few years the Lombardy Poplar, which graces the banks of the Po, has been much introduced in English plantations. It seems to like a British soil; and its youth is promising; but I have never seen it in full maturity. Its conic form as a deciduous tree, is peculiar. Among evergreens we find the same character in the cypress; and both trees in many situations have a good effect. The cypress often, among the ruins of ancient Rome, breaks the regularity of a wall or a pediment by its conic form: and the poplar on the banks of the Po, no doubt, has the same effect among its deciduous brethren, by forming the apex of a clump: though I have been told that, in its age, it loses its shape in some degree, and spreads more into a head. The oldest poplars of this kind I have seen, are at Blenheim. They are not old trees; but are very tall; and I believe still preserve their spiry form.

One beauty the Italian poplar possesses, which is almost peculiar to itself; and that is the waving line it forms, when agitated by wind. Most trees in this circumstance are partially agitated: one side is at rest, while the other is in motion. But the Italian poplar waves in one simple sweep from the top to the bottom, like an ostrich feather on a lady's head. All the branches coincide in the motion; and the least blast makes an impression upon it, when other trees are at rest. I have mentioned, among the adventitious beauties of trees, their susceptibility of motion:* but in painting I know not that I should represent any kind of motion in a tree, except that of a violent storm. When the blast continues for some time—when the black heavens are in unison with it, and help to tell the story, an oak straining in the wind is an object of picturesque beauty. But when the gentle breeze, pressing upon the quivering poplar, bends it only in easy motion, while a serene sky indicates the heavens to be at peace, there is nothing to act in concert with the motion of the tree: it seems to have taken its form from the influence of a sea air, or some other malign impression; and, exhibiting an unnatural appearance, disgusts. One thing more I should mention with regard to the Italian poplar, which is, that although it sometimes has a good effect, when standing single, it generally has a better, when two or three are planted in a clump.

The poplar tribe, *Populus*, of the class and order *Diœcia octandria*, certainly possess no great character as landscape trees; and we very much agree with Mr Gilpin in his remarks upon them. Yet still it may be well to notice a few of the more important members of the family.

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* See page 59.

The *Populus alba*, the Abele Tree, or Great White Poplar, a deciduous and rather aquatic tree, a native of Britain. It is tall and spreading. The trunk is covered with smooth white bark. The leaves are indented at the edges, and dark green in the upper surface, but white and woolly underneath. The variety called the Woolly-leaved Poplar is distinguished from the common abele by its larger leaves, which are three, four, or five lobed, and by the young shoots having a purple bark covered with white down. The silvery appearance of this tree, added to its rather graceful and free growing form, renders it, we think, a considerable acquisition to our groves. Both the trees are quick growers. An abele, standing on a bank in front of the house of Fountainhall, is seen from most parts of the county of Haddington. The wood produces good boards, which hold nails well, and make excellent flooring; and it has the advantage of being very uninflammable.

The *Populus vistulensis* seems to be a variety of this tree. On the banks of the Vistula it grows to upwards of one hundred feet high, with a clean trunk and ample head.

The *Populus tremula*, or Aspen, is also a native, and so hardy that it is an inhabitant of all the wildest and most ungenial scenes in the Highlands of Scotland, where it is associated with the birch and mountain ash. There is a superstitious notion among the vulgar, that the tremulous motion of its leaves was occasioned by its having been the wood of which our Saviour's cross was made. The fact is, that its leaves stand in long, slender, and perpendicularly flat footstalks, which render them easily moveable by the minutest breath of air. The aspen is a great curse when near a lawn. Its roots run for a long way beneath the surface, and then point up in numerous little shoots, that speedily become bushes, which it is almost impossible to eradicate.

The *Populus nigra*, the common Black Poplar, is also a native tree of lofty growth. It is distinguished by its light green leaves, slightly notched on the edges, and by its ash coloured bark. It is by some considered as a mere variety of the *Alba*.

The *Populus dilatata*, or Lombardy Poplar, mentioned by Mr Gilpin, though extremely fatiguing to the eye when it lines the road for miles, as it does very generally in France, and occasionally in Italy, is often a very beautiful and natural accompaniment to buildings. There is no great number of very old trees of this kind in this country, though many of them have already become very tall. One of the best we know of, is a poplar growing in the lawn, a little below the castle of Tarnawa, in Morayshire. It is very lofty, of great girth, and in perfect vigour. Some of the largest trees of the species are at Blenheim. We have observed a very whimsical effect produced by the long rows of these poplars in France, when seen crowning a distant elevation, where they have had to us all the appearance of an army drawn up; and we remarked that this whimsical deception very frequently occurred.

The Black Italian Poplar, though very different in its mode of growth, is supposed to be a mere variety of the above. Unlike the spiral form of the Lombardy poplar, it throws out its branches into a fine head. Poulet thus compares them,—"The leaves of both are very much alike in colour, shape, and turn, the only difference being in the latter producing them somewhat larger than the former, though not near so large as the other poplars whose leaves are of similar shape. The branches of the latter grow much less erect, and likewise much thinner upon the stem. The only other distinction necessary is the bark, which, on a stem or branch of from two to four or five years' growth, is always found smoother, and of a much darker colour than any of the poplars that are at all like it in other respects." It is said to be an amazing grower. Poulet measured a tree growing in the garden of Richard Atkinson of Huddersfield, which had been planted twenty-five years, sixty feet high, and containing about forty-six feet of good timber. Our experience has certainly taught us that they are quick growers, but we have not found them grow so very rapidly as some other planters appear to have done. The black Italian poplar, like some of the others, is considered extremely good for inside furnishing of ships, cabins, and apartments, and as flooring, &c.

Besides those, we have the *Populus Græca*, the Black Athenian Poplar; the *P. betulifolia*, the Canadian Poplar; and Michaux gives detailed descriptions of the *P. angulata*, or Carolinian; the *P. Canadensis*, or Cotton Wood; the *P. Hudsonica*, or American Black; the *P. molinifera*, or Virginian; the *P. argentea*, or Cotton Tree; the *P. balsamifera*, or Balsam, or *Tacamahaca; P. candicans*, or Heart-leaved Balsam Poplar; *P. tremuloides*, American Aspen; *P. grandidentata*, American Large Aspen; and *P. canescens*, Common White or Grey Poplar. Of these, the *Tacamahaca* has long been introduced into Britain, and grows to a very great height; and we confess that we think it a very considerable acquisition, not only from the tender yellow of its very early leaves in spring, but because we have frequently seen it thrust its tall form boldly forth from some tufted bank of wood, or from the front of some massive grove, in fine opposition to the rounded lines with which it was associated.

The Walnut is not an unpicturesque tree. The warm, russet hue of its young foliage makes a pleasing variety among the vivid green of other trees, about the end of May: and the same variety is maintained in summer, by the contrast of its yellowish hue, when mixed in any quantity, with trees of a darker tint; but it opens its leaves so late, and drops them so early, that it cannot long be in harmony with the grove. It stands best alone, and the early loss of its foliage is of the less consequence, as its ramification is generally beautiful.

The *Juglans regia*, or Common Walnut, is of the class and order *Monœcia polyandria.* "They render most graceful avenues to our country dwellings," says Evelyn, "and do excellently in hedgerows; but had need to be planted at forty or fifty feet interval, for they affect to spread both their roots and branches. The *Bergstras* (which extends from Heidelberg to Darmstadt) is all planted with walnuts; for, as by another ancient law, the Borderers were obliged to nurse up and take care of them, and that chiefly for their ornament and shade, so as a man may ride for many miles about that country, under a continued arbour or close walk — the traveller both refreshed with the fruit and the shade. How much such public plantations improve the glory and wealth of a nation!" "I remember Monsieur Sorbiere, in a sceptical discourse to Monsieur de Martel, speaking of the readiness of the people in Holland to furnish and maintain whatsoever may conduce to the public ornament as well as convenience, tells us, that their plantations of these, and the like trees, even in their very roads and common highways, are better preserved and entertained (as I myself have likewise been often an eyewitness) than those about the houses and gardens belonging to the nobles and gentry of most other countries, and, in effect, it is a most ravishing object to behold their amenities in this particular." "In several places betwixt Hanau and Frankfort in Germany, no young farmer is permitted to marry a wife, till he bring proof that he hath planted and is a father of such a stated number of walnut trees."

The Lime is an elegant tree, where it is suffered to grow at large: but we generally see it in strait bondage, clipped into shape, and forming the sides of avenues and vistas. In its best state, however, it is not very picturesque. It has a uniformity of surface, without any of those breaks and hollows which the foliage of the most picturesque trees presents, and which is always beautiful. One circumstance should recommend the lime to all lovers of the imitative arts. No wood is so easily formed under the carver's chisel. It is the wood which the ingenious Gibbons used, after making trial of several kinds, as the most proper for that curious sculpture, which adorns some of the old houses of our nobility.

The genus *Tilia*, or Lime, is of the class and order *Polyandria monogynia.* This tree is found wild in woods and grassy declivities, and it is a gorgeous addition to the park or lawn, and a magnificent tree, for its shade, in an ancient avenue. It was a favourite tree with the Romans, and the classical associations with it are not few. The art of carving in wood, brought to such perfection by Gibbons, is now, we believe, much given up: therefore the lime has lost a most important branch of its usefulness. Perhaps the finest specimens of the works of Gibbons are to be seen at Chatsworth, the seat of the Duke of Devonshire, in Derbyshire. The execution of the flowers, fish, game, nets, &c. on the pannelling of the walls, is quite wonderful. It was of him that Walpole justly said, " that he was the first artist who gave to wood the loose and airy lightness of flowers, and chained together the various productions of the elements, with a free disorder natural to each species." The lime tree is still, however, used by the carver; and we hope that the art of wood carving may gradually be restored. It is also used by the turner and musical instrument maker.

The flowers of the lime, when used in decoction as a ptisan, form a very valuable antispasmodic and quieting draught, which we have known to be taken with singular advantage.

There are six European species and several varieties of this tree which might be noticed, particularly the Corallina, or Red-twigged Lime; but the American species, the *Tilia Americana*, the American Lime, or Bass Wood, or Broad-leaved Lime, is the greatest acquisition to us as an ornamental tree. It exists in Canada, but is more common in the northern parts of the United States; it becomes less frequent towards the south; and in Virginia, the Carolinas, and Georgia, it is found only on the Alleghany mountains. In a loose, deep, and fertile soil, this tree swells to above four feet in diameter, and rises to above eighty feet high. Its trunk is straight and uniform, and it bears an ample and tufted summit, forming altogether a very beautiful and majestic tree. The leaves are alternate, large, nearly round, finely denticulated, heart-shaped at the base, and abruptly terminated at a point at the summit. The flowers are borne by long peduncles, pendulous, subdivided at the extremity, and garnished with a long, narrow, floral leaf. The seeds are round, and of a gray colour. The wood is white and tender, and used for the manufacture of the pannels of carriages.

The *Tilia alba*, or White Lime Tree, is noticed particularly by Michaux, as an American species. It is abundant in Pennsylvania, Maryland, Delaware, and the Western States. It is seldom seen but on the banks of rivers, and is particularly abundant on the Susquehannah, the Ohio, and their tributaries. Its height rarely exceeds forty feet, and its diameter twelve or eighteen inches. Its young branches are covered with a smooth, silver-gray bark, by which it is recognized in winter. The leaves are very large, denticulated, obliquely heart-shaped, and pointed, of a dark green on the upper surface, and white beneath, with small reddish tufts on the angles of the principal nerves. This whitish tint is most striking on solitary trees, exposed to the sun. The flowers are larger than those of any other lime tree, and have a most agreeable odour. The seeds are oval and downy.

The *Tilia pubescens*, or Downy Lime Tree, belongs to the southern parts of the United States, and to the Floridas. It prefers the borders of rivers and large marshes, where the soil is cool and fertile, but not exposed to inundation. It rises forty or fifty feet in height, with a proportional diameter. In its general appearance, it resembles the American lime tree more than the white lime tree. Its leaves differ widely in size, according to the exposure in which they have grown. They are rounded, pointed at the summit, very obliquely truncated at the base, edged with fewer and more remote teeth than those of the other lime trees, and very downy beneath. The flowers, also, are more numerous, and form larger bunches, and the seeds are round and downy. This tree was introduced long ago into France; its vegetation is vigorous, and it is uninjured by the severest winters of Paris.

Before leaving the lime tree, we may notice the delightful associations we have with it, from the recollection of the days of our youth, when, in many an hour of listless idleness, we have sheltered ourselves beneath its impenetrable shade; and, stretched out on the turf below, have listened to the mingled hum of the millions of bees which busily collected the honey from its fragrant flowers, whilst no other sound was heard in the summer air, but the occasional sudden, though rare, twitter of the skimming swallow, or the distant cooing of the amorous ringdove; and when all was silent on the earth, save the gentle cropping of the nibbling sheep, or the distant lowing of the kine from the shallows of the river, whither the raging heat had driven them.

The Maple is an uncommon tree, though a common bush. Its wood is of little value; and it is therefore rarely suffered to increase. We seldom see it employed in any nobler service than in filling up its part in a hedge, in company with thorns, and briars, and other ditch trumpery. Yet the ancients held it in great repute. Pliny[*] speaks as highly of the knobs, and excrescences of this tree, called the *brusca* and *mollusca*, as Dr Plot does of those of the ash.[†] The veins of these excrescences in the maple, Pliny tells us, were so variegated, that they exceeded the beauty of any other wood; even of the citron, though the citron was in such repute at Rome, that Cicero, who was neither rich nor expensive, was tempted to give ten thousand sesterces for a citron table. The brusca and mollusca, Pliny adds, were rarely of size sufficient for the larger species of furniture; but in all smaller cabinet work they were inestimable. But indeed the whole tree was esteemed by the ancients, on account of its variegated wood. In Ovid we find it thus celebrated:

——— acerque coloribus impar.[‡]

How far, at this day, it may be valued for cabinet work,

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[*] See Pliny, *Nat. Hist.* lib. xvi. ch. 16.
[†] See page 35: see also Pliny, *Nat. Hist.* lib. xiii. ch. 15.
[‡] Met. lib. x. v. 1.

I know not. I have, here and there, seen boxes, and other little things, made of it, which I have thought very beautiful.

In the few instances I have met with of this tree in a state of maturity, its form has appeared picturesque. It is not unlike the oak, only it is more bushy, and its branches closer and more compact. One of the largest maples I have seen, stands in the churchyard of Boldre, in the New Forest: but I have not met with specimens enough of this tree, to form an opinion of its general character.

The Great Maple, commonly called the Sycamore, is a grander and nobler tree than the smaller maple; but it wants its elegance: it is coarse in proportion to its bulk. It forms, however, an impenetrable shade, and often receives well-contrasted masses of light. Its bark has not the furrowed roughness of the oak; but it has a species of roughness very picturesque. In itself, it is smooth: but it peels off in large flakes, like the planes, (to which, in other respects, it bears a near alliance,) leaving patches of different hues, seams, and cracks, which are often picturesque.

The *Acer*, or Maple family, is of the class and order *Polygamia monoecia*. Of these the *Acer pseudoplatanus*, the sycamore, or false plane, which is invariably known by the populace of Scotland as the plane, is certainly a noble tree. The spring tints of the sycamore are rich, tender, glowing, and harmonious. In summer its deep green hue accords well with its grand and massive form; and the browns and dingy reds of its autumnal tints, harmonize well with the other colours of the mixed grove, to which they give a fine depth of tone. It is a favourite Scotch tree, having been much planted about old aristocratic residences in Scotland; and if the doubt of its having been a native tree of Britain be true, which, however, we cannot believe, then it is probable that the long intimacy which subsisted between France and Scotland, may be the cause of its being so prevalent in the latter country.

The sycamore has been proved to be capable of yielding sugar. Incisions were made, at five feet from the ground, in the bark of a tree of this species, about forty-five years old. A colourless and transparent sap flowed freely, so as in two or three hours to fill a bottle capable of containing a pound of water. Three bottles and a half were collected, weighing in all three pounds four ounces. The sap was evaporated by the heat of a fire, and gave two hundred and fourteen grains of a product, in colour resembling raw sugar; and sweet in taste, with a peculiar flavour. After being kept fifteen months, this sugar was slightly moist on the surface. The quantity of sap employed in the evaporation, was twenty-four thousand nine hundred and sixty grains, from which two hundred and fourteen grains of sugar were obtained: therefore, one hundred and sixteen parts of sap yielded one part of sugar. This experiment was made at Carron park, in the county of Stirling, on the 7th and 8th of March, 1816.

The *Acer campestre*, or Common Maple, does not seem to deserve more notice than Mr Gilpin has already given to it.

Besides these, there is the *Acer monspesalanum*, the Montpelier Maple, a low deciduous tree, growing common about Montpelier.

The *Acer creticum*, the Cretan Maple, a low deciduous tree, a native of the East.

The *Acer tartaricum*, or Tartarian Maple, a low deciduous tree, a native of Tartary. Besides these, we have some very interesting kinds described and figured by Michaux.

The *Acer eriocarpum*, or White Maple, grows particularly luxuriantly on the banks of the Ohio and its tributaries. Its foliage is singularly magnificent; the brilliant white of the under part of the leaves, contrasting strikingly with the bright green above, and the alternate reflection of the two surfaces in the water, heightens the beauty of the moving mirror; and Michaux speaks with rapture of the pictures so formed, which, during his long excursions in a canoe in these regions of solitude and silence, he contemplated with unwearied attention. Beginning at Pittsburg, and even some miles above the Alleghany and Monongahela rivers, white maples, twelve or fifteen feet in circumference, are continually met with at short distances. It is remarkable that this beautiful tree grows only on the banks of clear rivers. Its head is more spacious than almost any other tree, for the trunk is short, and it immediately divides itself into a great number of immense limbs. The flowers are small and sessile, with a downy ovarium, and the fruit is large. The leaves, which are at first downy underneath, afterwards become smooth. The wood is chiefly used for inlaying. The sugar made from its sap is whiter and more agreeable than that from the sugar maple, but it yields only half the quantity.

Acer rubrum, or Red Flowering Maple, Swamp Maple, or Soft Maple. This tree grows in Canada, but it thrives best in Pennsylvania and New Jersey. In these states there are extensive marshes called Maple Swamps, exclusively covered with it, where it is found seventy feet high, and three or four feet in diameter. The blossoms are of a beautiful purple or deep red, and come out about a fortnight before the leaves. They are sessile, aggregate, and situated at the extremity of the branches. The fruit is suspended on long flexible peduncles, and is of the same hue with the flowers. The leaves are smaller than the last species, whitish underneath, and divided into three or four acuminate lobes irregularly toothed. The wood, though soft, is prized by the turner for the shades of its silken surface. In very old trees, the grain is often undulated, which makes the variety called Curled Maple, but these are rare. On examining it attentively, these varying shades are found to be owing entirely to the inflection of the rays of light, as in mother-of-pearl, and this is more sensibly perceived by viewing it in different directions by candle light. It is exquisitely beautiful. A black dye is made from the cellular integument of this tree; and the French Canadians make sugar from the sap of this maple, which they call *plaine;* but the quantity of saccharine matter contained in it is only half as great as in the sugar maple.

Acer saccharinum, the Sugar Maple, Rock Maple, Hard Maple. This highly interesting tree is found a little to the north of Lake St John in Canada, near the forty-eighth degree of latitude, which in the rigour of its winter corresponds to the sixty-eighth degree in Europe. It is nowhere more abundant than between the forty-sixth and the forty-third degree, comprising Canada, New Brunswick, Nova Scotia, Vermont, New Hampshire, and Maine, in all which it enters largely into the composition of the forests. Dr Rush estimates, that in the northern parts of New York and Pennsylvania, there are ten millions of acres which produce these trees in the proportion of thirty to an acre. The sugar maple covers a greater extent of the American soil than any other species of this genus. It flourishes most in the mountainous parts, where the soil, though fertile, is cold and humid. The American forests are curiously grouped. The pines, and spruces, and other resinous trees, cover the low grounds and the bottoms of valleys, which are therefore called Black-wood-lands; and the leafy trees of the maple, beech, birch, and ash families, grow on level grounds, or on gentle declivities, and form what are denominated Hard-wood-lands. This appears to us Europeans as something like a reversal of the order of Nature to which we are accustomed in our forests. In proceeding northward from the forty-sixth degree of latitude, the deciduous trees become more rare, and the resinous trees more abundant: below forty-three degrees, the others give place in the forests to the oak and walnut families. The sugar maple grows to the height of seventy or eighty feet, with a proportional diameter. The bark is white, the leaves five inches broad, five lobed, whitish underneath, and bright green above, and they redden in autumn. The flowers are small, yellowish, and hung on slender, drooping peduncles. The wood takes a rosy tinge, after being cut for some time. Its grain is fine and close, and of a silky lustre when polished. It is strong and heavy, but soon decays when exposed to the moist air; but it is preferred to beech for the keels of vessels, as it furnishes longer pieces. This wood not only exhibits the curled undulation of fibre, but, from a certain inflection of the fibre from the circumference towards the centre in old trees, spots of half a line in diameter are produced, which creates that beautiful variety called the Bird's-eye Maple, which is so highly prized for furniture. To obtain this the log requires to be sawn, as nearly as possible, parallel to the concentric circles.

It will be interesting to sketch shortly the process by which the sugar is obtained from this tree, from the account of it given by Michaux. In a central situation, conveniently near to the trees from which the sap is to be drawn, a shed is constructed, which is called a sugar camp; this is for a shelter to the sugar boilers from the weather, for the work is commenced in February, or the beginning of March, while the ground is still covered with snow. An augur three-fourths of an inch in diameter — small troughs to receive the sap — tubes of elder or sumac, eight or ten inches long, corresponding in size to the augur, and laid open for a part of their length — buckets for emptying the troughs and conveying the sap to the camp — boilers of fifteen or eighteen gallons in capacity — moulds to receive the sirup when reduced to a proper consistency for being formed into cakes — and, lastly, axes to cut and split the fuel, — are the utensils necessary for the undertaking. The trees are perforated in an obliquely ascending direction, eighteen or twenty inches from the ground, with holes five or six inches apart, and not deeper than half an inch within the wood, as the most abundant flow of sap takes place at this depth. The south side of the tree should also be selected ; but this is not always attended to. A trough is placed at the foot of each tree, and the sap, which drops into it from the tubes, is every day collected, and poured into casks, from which it is drawn out to fill the boilers. The evaporation is kept up by a brisk fire, and the surface is carefully skimmed during this process ; fresh sap is added from time to time, and the heat is maintained till the liquid is reduced to a sirup, which is left to cool, and then strained through a blanket to separate the remaining impurities. The boilers are only half filled the second time that the sirup is subjected to the process, and the evaporation is known to have proceeded far enough when, on rubbing a drop of the sirup between the fingers, it is perceived to be granular ; it is then poured into the moulds, and when the molasses is drained off, the sugar is no longer deliquescent. When refined, it equals in beauty the finest sugar consumed in Europe, yet it is used nowhere but in the districts where it is produced, and there only in the country ; for, from prejudice or taste, the imported sugar is used even in the towns and inns of these districts.

When a frosty night is followed by a dry and brilliant day, the rush of sap is much greater, and two or three gallons are sometimes yielded by one tree in twenty-four hours. Three persons are found sufficient to tend two hundred and fifty trees, which give one thousand pounds of sugar, or four pounds from each tree ; but this produce is not uniform. All animals, wild and tame, are so very fond of maple juice, that they will break through enclosures to get at it.

The *Acer nigrum*, or Black Sugar Tree, of inferior size to the former, constitutes great part of the forests of Genessee.

The *Acer striatum*, or Moose Wood, or Striped Maple, the Snake-barked Maple of our shrubberies and grounds, forms the food of the moose deer during the latter part of winter and beginning of spring. It is found as far north as the forty-seventh degree of latitude, and becomes rare as we approach the Hudson. The beautiful characteristic of this tree is its smooth green bark, longitudinally marked with black stripes. Horses and cattle browse with avidity on the young shoots in spring, when they are full of saccharine juice. It is a very early tree. It is remarkable that the veins in the bark are either black or white, as the tree is grown in the dark depths of the wild forest, or in the drier soil and open sunshine. Most of the trees of this species which now grow in Europe, have been grafted on the lofty sycamore, the superior vigour of which enlarges the otherwise diminutive moose wood to four times its natural dimensions.

The *Acer negundo*, Box Elder, or Ash-leaved Maple, is remarkable for its leaves being from six to fifteen inches long, according to the vigour of the tree and the moisture of the soil. Each leaf is composed of two pairs of leaflets, with an odd one. The leaflets are petiolated, ovato-acuminate, sharply toothed, and the common petiole is of a deep red towards the autumn. This species is more confined to the United States, and wanders less into the northern latitudes. It was introduced about fifty years ago into France, and has subsequently spread into England. It is in great request for pleasure grounds, on account of the rapidity of its growth and the beauty of its foliage, its bright green forming an agreeable contrast with the surrounding trees.

The *Acer montanum*, or Mountain Maple, is abundant in Canada. It is a shrub only six or eight feet high.

We have yet left unnoticed a very beautiful European species, which has recently been much cultivated by us in Britain, and which therefore deserves to be particularly noticed, as we conceive it to be a very great addition to our woodland scenery, as well as to our parks,—we mean the *Acer platanoides*, or Norway Maple. This tree is hardy, and a quick grower. It is a native of Sweden and Norway, as well as of all countries where the sycamore is found. The foliage is full and umbrageous, and it very much resembles the *Platanus* after which it is named; and its spring and autumnal tints are both extremely fine,—the first being a tender green, and the latter a beautiful warm yellow; and it has the double advantage of producing its leaves early, and of shedding them late. The wood is white, and fine grained; it is easily wrought, and presents those agreeable accidental varieties in the direction of the fibre, which render it similar to the curled and bird's-eye maple. This delightful tree will grow on soils which are even too bad for the sycamore.

The Chestnut, in maturity and perfection, is a noble tree, and grows not unlike the oak. Its ramification is more straggling; but it is easy, and its foliage loose. This is the tree which graces the landscapes of Salvator Rosa. In the mountains of Calabria, where Salvator painted, the chestnut flourished. There he studied it in all its forms, breaking and disposing it in a thousand beautiful shapes, as the exigencies of his composition required. I have heard indeed that it is naturally brittle, and liable to be shattered by winds, which might be one reason for Salvator's attachment to it. But although I have many times seen the chestnut in England, old enough to be in a fruit-bearing state, yet I have seldom seen it in a state of full picturesque maturity. The best I have seen, stand on the banks of the Tamer, in Cornwall, at an old house, belonging to the Edgecumbe family. I have heard also that at Beechworth Castle, in Surrey, there are not fewer than seventy or eighty chestnuts, measuring from twelve to eighteen or twenty feet in girth, and some of them of very picturesque form: but I saw them only at a distance. In Kent also the chestnut is frequently found.

It is said, indeed, that this tree was once very common in England, and that beams of it are often seen at this day, in churches and old houses. In the belfry particularly of the church at Sutton, near Mitcham, in Surrey, I have seen beams, which are like oak; yet plainly appear to be of a different kind of timber, and are supposed to be chestnut. I have often heard also, that the timber of the old houses of London, was of the same kind. Whether the chestnut was ever indigenous to this country, seems to be matter of much speculation. As its timber is said to be serviceable, and as its fruit, though rarely of perfect growth in this climate, might, however, be of some use, we are at a loss to conceive, if it had once gotten footing amongst us, how it should ever be, as it now is, almost totally exterminated. Some have endeavoured to account for this, by shewing that it is not so good a timber tree as is supposed; for it decays at the heart, and will continue decaying till it become merely a shell, and for this reason it has been less sought after and encouraged. How far this may be true I know not: I rather suspect its truth. Some years ago, Mr Daines Barrington read a paper to the Royal Society, in which he endeavoured to prove, that the chestnut was not indigenous to this country. Dr Ducarel answerd him, and alleged, from ancient records and other evidences, that chestnut formerly abounded in many woody scenes in England, and was certainly a native of this island. Among the ancient records to which he appeals, one is dated in the time of Henry II. It is a deed of gift from Roger, Earl of Hereford, to Flexley Abbey, of the tithe of all his chestnuts in the forest of Dean.*

We think that the *Fagus castanea*, or Spanish Chestnut, is perhaps the noblest tree in our British sylva. It is of the class and order *Monoecia polyandria* of Linnæus, and belongs to the *Amentaceæ* of Jussieu, and is of the same family as the beech, though our author's arrangement has precluded our notice of it till now. In all countries, as well as in this, it has exceeded the oak, both in height and magnitude; and certainly, in form and in foliage, it is not a whit behind that recognized "monarch of our woods." It seems to have been a question of great doubt, whether the chestnut is in reality one of our indigenous trees; but it appears to us, that the circumstance of its being found as an integral part of ancient buildings, especially in Scotland, would seem to go far to settle the question in the affirmative. "It hath formerly built a good part of our ancient houses in the city of London," says Evelyn, "as does yet appear. I had once a very large barn near the city, framed entirely of this timber; and certainly they grew not far off—probably in some woods near the town; for in that description of London written by Fitzstephens, in the reign of Henry II, he speaks of a very noble and large forest, which grew on the Boreal part of it: *Proximo* (says he) *patet foresta ingens, saltus nemorosi ferarum, latebræ cervorum, damarum, apronum et taurorum sylvestrium, &c.;* a very good thing, it seems, and as well stored with all sorts of good timber, as with venison, and all kinds of chase." This is strong evidence; but Scotland also produces her testimony, and of a precisely similar nature, too. The roof of the Parliament House in Edinburgh is constructed of it; and the beams, and roofing, and strange projections of many of the wooden houses, which had stood for ages in the ancient part of the Scottish capital, and which were recently pulled down, were found to be of chestnut: and, what is curious, the timber seems to have been procured from a suburban forest, resembling that on the north side of ancient London; for it appears, from the city records, that large oaks and chestnuts formerly covered the space called the Borough-moor, a wild piece of ground, then lying about two miles to the south-west of the city; but now covered, partly by its straggling advanced guard of villas, and otherwise occupied by the estate of the Grange, and other properties. Even the acclivities of the hill of Arthur's Seat were at that time covered with oak and other timber ; but these coverts were found so to shelter robbers and vagabonds of all kinds, that the magistrates of the city encouraged the citizens to cut down and employ the wood in building those picturesque superstructures and projections of timber which the confinement of the space within the circle of the city walls compelled them to construct. Chestnuts are to be found near all the old aristocratical residences in Scotland. In the Dean, at Winton in East-Lothian, we remember to have seen a groupe of most magnificent trees of this species, twisted into forms which would have arrested the steps of Salvator himself, even amid his wanderings in the Calabrian wilds ; and there is a very large chestnut tree at Riccarton, in the county of Edinburgh, afterwards noticed, the picturesque effect of which is not to be surpassed. Why it should have obtained the name of the Spanish Chestnut, we cannot understand, as none of the temperate European countries are without it. We, for our part, have roamed for miles through the high-roofed leafy shades of the endless chestnut forests which hang every where on the sides and roots of the Apennines, where the impervious canopy was supported by the columnar trunks of the enormous trees ; and there, and in many parts of the Alps, the peasants depend greatly on the chestnuts; for the bread they live on is very much, if not altogether, composed of the farina obtained from the nuts. We remember participating in one of the most interesting scenes we ever beheld, whilst penetrating that extensive chestnut forest which covers the body of the Val-ombrosan Apennine, for nearly five miles upwards. It was a holiday, and a group of peasants, of both sexes, dressed in the gay and picturesque attire of the neighbourhood of the Arno, were sporting and dancing on a piece of naturally level and well-cropped turf, which spread itself beneath these gigantic trees, whilst the inmost recesses of the forest were, ever and anon, made to resound to their mirth and their music. Some were beating down the chestnuts with sticks ; others, for their own refreshment, were picking out the contents from the pallisadoed castles in which the kernels lie intrenched, and when newly gathered from the tree, nothing can be more sweet or pleasing to the palate ; whilst others, and particularly the girls, were carrying on an amusing warfare of love, by pelting one another with the fruit. It seemed to us as if the golden age had been restored ; and that, abandoning all the luxuries and attendant evils of civilized life, mankind had voluntarily returned to their pristine simplicity of fare, when the *esculus* and the chestnut tree yielded them their innocuous food, and when the innocency of their lives corresponded with that of their rustic nutriment.

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* See four letters on chestnut trees, read before the Royal Society, 1771.

The Horse Chestnut is a heavy, disagreeable tree. It forms its foliage generally in a round mass, with little appearance of those breaks, which we have so often admired, and which contribute to give an airiness and lightness, at least a richness and variety, to the whole mass of foliage. This tree is, however, chiefly admired for its flower, which in itself is beautiful: but the whole tree together in flower, is a glaring object, totally unharmonious and unpicturesque. In some situations, indeed, and among a profusion of other wood, a single chestnut or two, in bloom, may be beautiful. As it forms an admirable shade, it may be of use, too, in thickening distant scenery, or in screening an object at hand: for there is no species of foliage, however heavy, nor any species of bloom, however glaring, which may not be brought, by some proper contrast, to produce a good effect.

As a picturesque tree, except when contributing to make up a dense mass of foliage in a landscape, we agree with Mr Gilpin, that the *Esculus hippocastanum*, or horse chestnut, is perhaps too lumpy and unbroken in its foliage, to be pleasing to the artist ; but this is all we are disposed to yield. What broad masses of light and shadow have we not seen projected over half a picture, by the predominance of this magnificent tree! Although it might be impossible to represent it in a picture, yet we conceive that there are few objects within the limited range of the British sylva which is more calculated to raise the thoughts of a contemplative man from "Nature up to Nature's God," than an enormous horse chestnut tree, clothed in all the richness of its heavy green velvet drapery, embroidered over with the million of silver flowers which cover it from top to bottom.

[illegible]

[illegible]

The *Esculus hippocastanum* is of the class and order *Heptandria monogynia* of Linnæus, and of the *Acereæ* of Jussieu. It was brought from the northern parts of Asia into Europe, about the year 1550, and was cultivated by Gerarde and Tradescant ; but it does not seem to have made much progress in Britain for some time ; for old Evelyn, who wrote in 1663, says, " In the meantime, I wish we did more universally propagate the horse chestnut, which being easily increased from layers, grows into a goodly standard, and bears a most glorious flower, even in our cold country. This tree is now all the mode for the avenues to their country palaces in France, as appears by the late superintendent's plantation at Vaux."

The Weeping Willow is a very picturesque tree. It is a perfect contrast to what we have just observed of the Lombardy poplar. The light, airy spray of the poplar, rises perpendicularly. That of the weeping willow, is pendent. The shape of its leaf is conformable to the pensile character of the tree; and its spray, which is still lighter than that of the poplar, is more easily put into motion by a breath of air. The weeping willow, however, is not adapted to sublime subjects. We wish it not to screen the broken buttresses and gothic windows of an abbey, nor to overshadow the battlements of a ruined castle. These offices it resigns to the oak, whose dignity can support them. The weeping willow seeks a humbler scene,—some romantic footpath bridge, which it half conceals, or some glassy pool, over which it hangs its streaming foliage,

—— and dips
Its pendent boughs, stooping as if to drink.

In these situations it appears in character, and, of course, to advantage. I have heard indeed that the weeping willow is not naturally an aquatic plant; but its being commonly believed to be so, is ground enough to establish it as such, in landscape at least, though not in botany.

The weeping willow is the only one of its tribe that is beautiful. Botanists, I believe, enumerate sixteen species of the willow. But though I have seen some of them attain a very remarkable size, yet in general they are trees of straggling ramification, and without any of that elegant streaming form, which we admire in the weeping willow. I should rarely therefore advise their use in artificial landscape; except as pollards to characterize a marshy country; or to mark, in a second distance, the winding banks of a heavy, low-sunk river, which could not otherwise be noticed. Some willows, indeed, I have thought beautiful, and fit to appear in the decoration of any rural scene. The kind I have most admired, has a small narrow leaf, and wears a pleasant, light, sea green tint, which mixes agreeably with foliage of a deeper hue. I am not acquainted with the botanical name of this species, but I believe the botanists call it the *Salix alba*.

How remarkably this observation illustrates Alison's Theory of Taste. The willows, which he calls ugly, are here made pleasing; because, by occupying a particular place in the landscape, they suggest, by association, the presence of that most pleasing object, running water, which is itself not seen.

The Withy, or *Salix fragilis*, is the most inconsiderable of its tribe. Like others of its kindred, it will grow in any soil, though it loves a moist one. It is of little value in landscape, and yet there is something beautiful in its silver-coated catkins; which open, as the year advances, into elegant hanging tufts; and when the tree is large, and in full bloom, make a beautiful variety among the early productions of the spring.

The numerous family of willows, the *Salices*, are of the class and order *Diœcia monandria* of Linnæus, and of the *Amentaceæ* of Jussieu. There are few individuals of those naturalized here which are worth cultivating as trees, though we think that some of these which we except, are not without their beauty in landscape. The *Salix babylonica*, or weeping willow, is certainly, in its proper place, the most beautiful of these. It is a native of the Levant; and the associations which are awakened in conjunction with it, by that very beautiful psalm, "By the waters of Babylon we sat down and wept, when we remembered thee, O Sion! As for our harps, we hanged them upon the willow trees," &c. The tender and melancholy recollections of the captive children of Israel, when taken in conjunction with this tree, are of themselves sufficient to give to it an interest in every human bosom that may have been touched by the strains of the Psalmist. Another strong association, though of a different nature perhaps, is also now connected with this tree, by the numerous progeny which are every where propagating from the willows which now weep over the mouldering dust of Napoleon. The weeping willow is not of very ancient introduction into Britain, as a tree. It has been said, that the first was planted by Pope, at his villa at Twickenham, under these circumstances: The poet having received a present of figs from Turkey, observed that one twig of the basket in which they were packed, was putting out a shoot. He immediately planted it in his garden, and it soon became a fine tree, from which stock all the weeping willows in England have come.

The most conspicuous among the willows which grow to trees, are the *Salix alba*, Huntingdon, or White Willow; the *Salix Russeliana*, or Bedford Willow; the *Salix fragiles*, or Crack Willow; the *Salix cinerea*, or Grey Willow; and the *Salix caprea*, or Great Round-leaved Willow. We agree with Mr Gilpin in thinking that the Huntingdon, or White Willow, is the finest tree for landscape. But every thing in Nature is altered by circumstances; and we have seen willows ruined by age and accidental storms, the worn down form of which, contrasted with their wondrous efforts to renew the greenness of their youth, have excited in us the liveliest interest. We have the good fortune to possess a drawing of a willow of this description, a study from nature, by that celebrated artist, Hugh William Williams, so well known as the author of Views in Greece. It is no less interesting as a subject, than valuable as a water-colour painting, and as a memorial of so great a master. Mr Sang tells us, that the Huntingdon willow is the most common pollard in England, so that few grown trees of it are to be seen in the southern part of the island; while in Scotland many very large trees of this species are frequently to be met with. The bark has been found to be as valuable for tanning as that of the birch.

Nearly related to the willow tribe, though in nature rather than in form, is the Alder. They both love a low moist soil, and frequent the banks of rivers; though it may be alleged, in favour of both, that they will flourish in the poorest forest swamps, where nothing else will grow. The alder is, however, the more picturesque tree, both in its ramification and in its foliage; perhaps indeed it is the most picturesque of any of the aquatic tribe, except the weeping willow. He who would see the alder in perfection, must follow the banks of the Mole, in Surrey, through the sweet vales of Dorking and Mickleham, into the groves of Esher. The Mole indeed is far from being a beautiful river; it is a silent and sluggish stream: but what beauty it has, it owes greatly to the alder, which every where fringes its meadows, and in many places forms very pleasing scenes; especially in the vale between Box Hill and the high grounds of Norbury Park.

Some of the largest alders we have in England grow in the Bishop of Durham's park, at Bishop-Aukland. The generality of trees acquire picturesque beauty by age: but it is not often that they are suffered to attain this picturesque period. Some use is commonly found for them long before that time. The oak falls for the greater purposes of man, and the alder is ready to supply a variety of his smaller wants. An old tree therefore of any kind is a curiosity; and even an alder, such as those at Bishop-Aukland, when dignified by age, makes a respectable figure.

We fully agree with Mr Gilpin in his commendation of the Alder, *Alnus glutinosa*, of the class and order *Monœcia tetrandria* of Linnæus, and of the *Amentaceæ* of Jussieu. It is always associated in our minds with river scenery, both of that tranquil description most frequently to be met with in the vales of England, and with that of a wilder and more stirring cast, which is to be found amidst the deep glens and ravines of Scotland. In very many instances, we have seen it put on so much of the bold resolute character of the oak, that it might have been mistaken for that tree, but for the intense depth of its green hue. The Mole may doubtless furnish the traveller with very beautiful specimens of the alder, as it may also furnish a sample of that species of quiet English scenery we have alluded to; but we venture to assert, that nowhere will the tree be found in greater perfection, than on the wild banks of the river Findhorn and its tributary streams, where scenery of the most romantic description every where prevails. The remark as to the wants and purposes of man tending to prevent the growth of trees to their full maturity, is too well exemplified in the case of the alder; yet is it sometimes allowed to come to perfection. Mr Beevor mentions an alder in his garden, which, at four feet from the ground, measured sixteen feet two and three quarter inches. It is extremely valuable, even at a small size, for cutting up into herring barrel staves, and thus whole banks in Scotland are denuded every year of this species of timber. The old trees, which are full of knots, cut up into planks, have all the beauty of the curled maple, with the advantage of presenting a deep rich reddish tint; and in this state they make most beautiful tables. We have seen some of these, and we have the good fortune to possess one, made from some enormous trees that grew at Dawick, the property of Sir John Nasmyth, in Peeblesshire; and no foreign wood we have ever seen can match them for beauty. It must be remembered, however, that the alder timber is very liable to be perforated by the small beetle; it should therefore, if possible, be prepared by ponding the logs in a large hole dug in a peat moss, and impregnating the water of the hole with a quantity of lime. If this is done for a few months, and if the furniture is afterwards well varnished over with what is called French polish, it will stand unharmed for generations. Michaux describes two American alders. The *Alnus serrulata*, or Common Alder, and the *Alnus glauca*, or Black Alder. The first is a shrub about eight or ten feet high, and the second only attains to eighteen or twenty feet high.

The Birch may have several varieties, with which I am not acquainted. The most common species of it in England, are the black and the white. The former is a native of Canada, the latter of Britain. Of the White Birch there is a very beautiful variety, sometimes called the Lady Birch, or the Weeping Birch. Its spray being slenderer and longer than the common sort, forms an elegant pensile foliage, like the weeping willow; and like it, is put in motion by the least breath of air. When agitated, it is well adapted to characterize a storm; or to perform any office in landscape, which is expected from the weeping willow.

The stem of the birch is generally marked with brown, yellow, and silvery touches, which are peculiarly picturesque, as they are characteristic objects of imitation for the pencil, and as they contrast agreeably with the dark green hue of the foliage. But only the stem and larger branches have this varied colouring: the spray is of a deep brown, which is the colour, too, of the larger branches, where the external rind is peeled off. As the birch grows old, its bark becomes rough and furrowed. It loses all its varied tints, and assumes a uniform, ferruginous hue.

The bark of this tree has the property, perhaps peculiar to itself, of being more firm and durable than the wood it invests. Of this the peasants of Sweden, Lapland, and other northern countries, where birch grows in abundance, take the advantage; and shaping it like tiles, cover their houses with it. How very durable it is, we have a very remarkable instance in Monsieur Maupertuis's travels. When that philosopher traversed Lapland to measure a degree of latitude, he was obliged to pass through vast forests, consisting entirely of birch. The soil in some parts of these wastes being very shallow, or very loose, the trees had not a sufficient footing for their roots, and became an easy prey to winds. In these places Maupertuis found as many trees blown down as standing. He examined several of them, and was surprised to see that in such as had lain long, the substance of the wood was entirely gone; but the bark remained a hollow trunk without any signs of decay.

We can vouch, from our own observations in Scottish woods, for the truth of this circumstance noticed by Maupertuis; and moreover, as we shall see by and by, the Americans navigate their rivers in canoes made of birch bark, and in ancient times the same usage prevailed in Britain.

The birch is the *Betula*, of the class *Monœcia polyandria* of Linnæus. Our native tree is the *Betula alba*, the Weeping Birch; the *Betula pendula* is a mere variety of it. We have remarked, in the young weeping birches, a certain degree of roughness on the spray, as if it were the coagulation of a gum exuded from the pores, that never failed to indicate to us the tree which was ultimately to turn out of the pendulous variety. Michaux says, that our *Betula alba* is so nearly related in its bark, its foliage, the quality of its wood, and in other properties, to the American white birch, and to the canoe birch, that it appears to occupy a middle place between them. In its leaves, and in its readiness to grow on steril soils, it perfectly resembles the white birch; but the British tree is much larger in growth than the American.

We must not forget the delightful odour which is given out by our birch, especially after rain or heavy dew. Some of these trees should always be planted near a house for the very purpose of filling the air with their fragrance. It arises from a certain gum which exudes from the leaves and spray. The very pleasing and refreshing beverage called birch wine, which is made from the sap of the tree, tapped in the same manner as the maples are in America, is another valuable product of the birch. Evelyn is long and learned on this interesting subject. Pallas, in his *Flora rossica*, tells us that the Russian leather owes its agreeable smell to an oil extracted from the birch. He thus describes the process:—"The oil is prepared from the white bark, either taken from the live tree, or collected from those that are putrid in the woods. It is best made from the latter; because, from the putrefaction, it is freed from the inner bark; and the external white bark remains uncorrupted for ages, as appears by the old burial places at Jamaica, and the vaults of the very ancient castle of Moscow, which I observed were covered with birch bark. The bark is gathered into a heap, and pressed into pits made in the shape of a funnel, prepared in clay soil; and when set on fire, it is covered with turf. The oil, distilling through the clay-hole at the bottom of the funnel, drops into a vessel placed to receive it; and it is then tunned into casks made of the hollowed trunks of trees. The pure limpid oil swims at top, and is in the greatest request for anointing leather, on account of its antiseptic quality. The residuum is thick and sooty, and is employed for various common uses." Ordinary birch bark is used for tanning, and is about half the value of oak bark.

The White Birch of America is called the *Betula populifolia.* It grows in Canada, in New York, New Jersey, Pennsylvania, and Virginia. It rarely ever reaches the height of thirty-five feet.

The *Betula papyracea*, or Canoe Birch, by the French Canadians called *Bouleau à Canot*, is sometimes also called the Paper Birch. It is most multiplied in Lower Canada, New Brunswick, Maine, New Hampshire, and Vermont. It ceases to appear below the forty-third degree of latitude. The canoe birch attains its largest size, which is about seventy feet in height, and three feet in diameter, on the declivities of hills, and in the bottom of fertile valleys. Its branches are slender, flexible, and covered with a shining brown bark, dotted with white. The leaves are borne by petioles four or five lines long, and are of a middling size, oval, unequally denticulated, smooth, and of a dark green colour. The aments are pendulous, and about an inch in length. The heart, or perfect wood of this tree, when first laid open, is of a reddish hue, and the sap wood is perfectly white. The timber has a fine glossy grain, with considerable strength. Slices are cut from the timber of this tree immediately below its first ramification, where the undulations of the fibres produce the appearance of bunches of feathers, or sheaves of corn; and these are used in inlaying mahogany. It is of the bark of this birch that the canoes are made, a circumstance which gives to it a peculiar interest. Michaux tells us, that, in order to procure proper pieces, the largest and smoothest trunks are selected. In the spring two circular incisions are made several feet apart, and two longitudinal ones on opposite sides of the tree; after which, by introducing a wooden wedge, the bark is easily detached. These plates are usually ten or twelve feet long, and two feet nine inches broad. To form the canoe they are stitched together with fibrous roots of the white spruce, about the size of a quill, which are deprived of the bark, split, and suppled in water. The seams are coated with resin from the Balm of Gilead. Great use is made of these canoes by the savages, and by the French Canadians, in their long journeys into the interior of the country: they are very light, and are easily transported on the shoulders from one lake or river to another, which is called the portage. A canoe calculated for four persons, with their baggage, weighs from forty to fifty pounds. Some of them are made to carry fifteen passengers. The canoe birch flourishes in the neighbourhood of Paris, and as it is found to grow on poor lands, it will be an acquisition to our sylva. It is here known by the nurseryman as the *Betula nigra*.

The *Betula rubra*, or Red Birch, is most abundant in Maryland, Virginia, the Carolinas, and Georgia. It grows only on the banks of rivers. Michaux has seen it on the Delaware seventy feet high, and two or three feet in diameter. On the trunk, and on the largest limbs, of a lofty red birch, the bark is thick, deeply furrowed, and of a greenish colour. The epidermis of the young trees is of a reddish or cinnamon colour, whence it has its name. When fully expanded, this tree has an ample summit, but the uncommon thickness of its branches prevents its appearing tufted. The twigs are long, flexible, and pendulous, and the limbs are of a brown colour, spotted with white; their bark is slightly uneven, while on the other branches it is smooth and glossy. The petioles are short and downy, and the leaves are about three inches long and two inches broad, of a light green on the upper surface, and whitish beneath; they are doubly denticulated at the edge, very acuminate at the summit, and terminated at the base in an acute angle, more regular than is seen in the leaf of any other tree. The fertile aments are five or six inches long, straight, and nearly cylindrical. The wood of the red birch is compact, nearly white, and longitudinally marked by red vessels which intersect each other in different directions.

Betula lutea, the Yellow Birch. This species chiefly abounds in Nova Scotia, New Brunswick, and the Maine, and is always found on cool, rich soils, where it grows sixty or seventy feet high, and more than two feet in diameter. It is a beautiful tree, with a trunk of nearly uniform diameter, straight, and destitute of branches for thirty or forty feet; but the specific name of *Excelsa* has been erroneously given to it, as it leads to the notion that it surpasses all the other species in height, which is not the case. It is remarkable for the colour and arrangement of its epidermis, which is of a brilliant golden yellow, and which frequently divides itself into very fine strips, rolled backwards at the ends, and attached at the middle. The young shoots, and the leaves at their unfolding, are downy, but when perfectly expanded the leaves become smooth, except the petiole, which remains covered with a fine short hair; they are about three inches and a half long, and two inches and a half broad, ovato-acuminate, and bordered with sharp and irregular teeth. The leaves, the bark, and the young shoots, have an agreeable taste and smell, similar to those of the black birch, though less sensible, which they lose in drying. The wood is inferior in quality and appearance to that of the black birch, but it is strong, and when well polished, it makes handsome furniture.

Betula lenta, or Black Birch. The agreeable foliage of this species, and the valuable properties of its wood, render it the most interesting of the American birches. Its other names are, the Mountain Mahogany, the Sweet Birch, and the Cherry Birch. This tree grows in Nova Scotia, Maine, and Vermont, and it abounds in the middle states, particularly in New York, Pennsylvania, and Maryland. It prefers a deep, loose, and cool soil; and in such a situation it sometimes exceeds seventy feet in height, and two or three feet in diameter. At the close of winter, the leaves, during a fortnight after their birth, are covered with a thick silvery down, which disappears soon after. They are about two inches long, serrated, cordiform at the base, acuminate at the summit, of a pleasing tint and fine texture, and not unlike the leaves of the cherry tree. When bruised, the leaves diffuse a very sweet odour, and as they retain this property when dried and carefully preserved, they afford an agreeable infusion, with the addition of sugar and milk. The barren flowers of the black birch are disposed in flexible aments about four inches long. The fertile aments, situated at the extremity of the young spray, are ten or twelve lines long, and five or six lines in diameter. On young trees, the bark is smooth, grayish, and perfectly similar in its colour and organization to that of the cherry tree. On old trees, the epidermis detaches itself transversely at intervals in hard, ligneous plates, six or eight inches broad. When freshly cut, the wood is of a rosy hue, which deepens by exposure to the light. Its grain is fine and close, and susceptible of a brilliant polish ; it has also a considerable share of strength. It is used for many purposes, such as arm-chairs and sofas, and for the frames of coach panels. The vegetation of the black birch is beautiful, and in a congenial soil its growth is rapid. In the *Annals of the Arts*, there is a report of a tree of this species having obtained the height of forty-five feet eight inches, in nineteen years. It would be a valuable introduction into certain parts of Britain, where the greater humidity of the climate would give it a much better chance of growing to perfection, than it could possibly do in more southern countries. Michaux thus concludes his detailed account of this tree : "I shall terminate this description of one of my favourite trees, by recommending it to the lovers of foreign vegetables, as eminently adapted, by the beauty of its foliage, and by the agreeable odour of its flowers, to figure in their parks and gardens."

Among elegant pendent trees, the Acacia should not be forgotten ; though the acacia, which we have in England (called by the botanist, the *Robinia*) is perhaps only a poor substitute of this plant in its greatest perfection. And yet even ours, when we have it full grown, is often a very beautiful tree, whether it feathers to the ground, as it sometimes does ; or whether it is adorned with a light foliage hanging from the stem. But its beauty is very frail. It is of all trees the least able to endure the blast. In some sheltered spot it may ornament a garden; but it is by no means qualified to adorn a country. Its wood is of so brittle a texture, especially when it is encumbered with a weight of foliage, that you can never depend upon its aid in filling up the part you wish. The branch you admire to-day, may be demolished to-morrow. The misfortune is, the acacia is not one of those grand objects, like the oak, whose dignity is often increased by ruin. It depends on its beauty, rather than on its grandeur, which is a quality more liable to injury. I may add, however, in its favour, that if it be easily injured, it repairs the injury more quickly than any other tree. Few trees make so rapid a growth.

In one of the memoirs published by the Agricultural Society at Paris, the virtues of this tree are highly extolled. Its shade encourages the growth of grass. Its roots are so tenacious of the soil, and shoot up such groves of suckers, that when planted on the banks of rivers, it contributes exceedingly to fix them as barriers against the incursions of the stream. Acacia stakes, too, are as durable as those of any wood. In North America this tree is much valued; in proof of which, the memorialist tells a story of a farmer in Long Island, who planted an ordinary field of fourteen acres with suckers of this plant, in the year of his marriage, as a portion for his children. His eldest son married at twenty-two. On this occasion the farmer cut about three hundred pounds worth of timber out of his acacia wood, which he gave his son to buy a settlement in Lancaster county. Three years after, he did as much for a daughter. And thus he provided for his whole family; the wood in the meantime repairing by suckers all the losses it received.

"The French," says Evelyn, "have lately brought in the Virginian acacia, which exceedingly adorns their walks. The tree is hardy against all the invasions of our sharpest seasons but our high winds, which, by reason of its brittle nature, it does not so well resist; and the roots (which insinuate and run like liquorice under ground) are apt to emaciate the soil, and therefore, haply, not so commendable in our gardens, as they would be agreeable for variety of walks and shade.

They thrive well in his Majesty's new plantation in St James's Park."

The *Robinia pseudo acacia*, or Locust Tree, is the tree alluded to by Gilpin and Evelyn. It belongs to the Linnæan class and order *Diadelphia decandria*, and to the *Liguminosæ* of Jussieu. It was one of the first trees introduced into Europe from North America. In Virginia, and some of the other states, it grows, in fertile soil, to above four feet in diameter, and seventy or eighty feet in height. The wood is much used by shipwrights, as it is very indestructible.

The acacia grows well in Scotland, and is to be found of considerable size in the neighbourhood of Edinburgh. There is one at the Grange House, above thirty feet high, which measures three feet seven and a half in girth at three feet from the ground, and five feet one inch immediately above the ground ; but this is not given as any thing remarkable. Sir John Nasmyth, Bart. has one at Dawick, in Tweeddale, which measures five feet ten inches in girth at three feet from the ground, and six feet six inches close to the ground. But the finest group of these trees that we know of is at Niddrie Marischall, near Edinburgh. One of these measures nine feet round at three inches above the ground. It divides into two great limbs, which are respectively five feet four inches and four feet four inches in girth. A second tree of the same group, at three inches from the ground, measures six feet five inches round, and its three limbs measure respectively three feet three inches, three feet seven inches, and three feet one inch. And a third acacia measures six feet three inches in girth at three feet from the ground.

The *Robinia viscosa*, or Rose-flowering Acacia, has also been introduced into Britain, but it is more delicate. It is found only in that part of the Alleghanies which traverses Georgia and the Carolinas. It is not so large as the preceding species, rarely exceeding forty feet in height, and ten or twelve inches in diameter. It easily supports the vigorous winters of New York and Pennsylvania.

I shall conclude my account of deciduous trees with the Larch, which is a kind of connecting species between them and the race of evergreens. Though it sheds its leaf with the former, it bears a cone, is resinous, and ramifies like the latter. It claims the Alps and Apennines for its native country, where it thrives in higher regions of the air than any tree of its consequence is known to do; hanging over rocks and precipices, which have never been visited by human feet. Often it is felled by the Alpine peasant, and thrown athwart some yawning chasm, where it affords a tremendous passage from cliff to cliff; while the cataract, roaring many fathoms below, is seen only in surges of rising vapour.

In ancient times the larch was employed in still more arduous service. When Hannibal laid the cliffs bare, and heaped up piles of timber to melt the rocks, (so Livy tells us,) the larch was his fuel: its unctuous sides soon spread the flame; and as the gloom of evening came on, the appendages of a numerous host, elephants, and floating banners, and gleaming arms, formed terrific images through the night; while the lofty summits of the Alps were illumined far and wide.

Strabo speaks of Alpine trees (which most probably were larches) of a very great size. Many of them, he says, would measure eight feet in diameter.* And at this day, masts of single larches, measuring from one hundred and ten, to one hundred and twenty feet in length, have been floated from Valais, through the lake of Geneva, and down the Rhone to Toulon; though I have heard they are in no great esteem among the contractors for the French dock-yards.

In the Memoirs of the Royal Society of Agriculture at Paris, for the year 1787, there is an essay by M. le President de la Tour d'Aigues, on the culture of the larch; in which it is celebrated as one of the most useful of all timber trees. He tells us, that in his own garden he has rails, which were put up in the year 1743, partly of oak, and partly of larch. The former, he says, have yielded to time; but the latter are still sound. And in his castle of Tour d'Aigues, he has larchen beams of twenty inches square, which are sound, though above two hundred years old. The finest trees he knows of this kind, grow in some parts of Dauphiny, and in the forest of Baye in Provence, where there are larches, he tells us, which two men cannot fathom. I have often heard, that old dry larch will take such a polish as to become almost transparent; and that, in this state, it may be wrought into very beautiful wainscot. In my encomium of the larch, I must not omit that the old painters used it, more than any other wood, to paint on, before the use of canvass became general. Many of Raphael's pictures are painted on boards of larch.

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* Lib. iv. p. 202.

The larch we have in England, compared with the larch of the Alps, is a diminutive plant. It is little more than the puny inhabitant of a garden, or the embellishment of some trifling artificial scene. The characters of grand and noble seldom belong to it. It is, however, an elegant tree; though, in our soil at least, too formal in its growth. Among its native steeps its form, no doubt, is fully picturesque, when the storms of many a century have shattered its equal sides, and given contrast and variety to its boughs.

The Larch, *Pinus larix*, of the class and order *Monœcia monandria* of Linnæus, may now be considered as a domesticated tree, since we know of many tracts of moor in the northern parts of Scotland, where the older trees are fast sowing the ground with a healthful young progeny of natural grown children. This is particularly the case in Morayshire, where the tree has been much planted. Never was there a more valuable or a more successful introduction into our country. Evelyn eagerly called for it, for in his time there seems to have been only one in the kingdom. "But why," says he, "might we not hope as well of the larch, from whence that useful drogue agaric is gathered? I reade of beames of no less than one hundred and twenty foot in length, made out of this goodly tree, which is of so strange a composition that 'twill hardly burn, as Cæsar found in a castle he besieged, built of it; yet the coals thereof were held far better then any other for the melting of iron. That which now grows somewhere about Chelmsford in Essex, arrived to a flourishing and ample tree, does sufficiently reproach our negligence and want of industry." The author of *Sylva* is at variance here with Mr Gilpin as to the combustibility of the larch; but old Evelyn is right,—the timber of this tree is peculiarly uninflammable. We have frequently experimented on it, and we have always found that even in the most powerful fire, it did not flame, but gradually and very slowly wasted on the surface, and rarely, if ever, was consumed, even where immense heaps of other timber were burned in the trial. The fact is, that on referring to the passage in Livy, which has misled Mr Gilpin, we find that there is no absolute mention made of the larch by name. The passage is, "Inde ad rupem muniendam, per quam unam via esse poterat, milites ducti, quum cædendum esset saxum, *arboribus circa, immanibus* dejectis detruncatisque, struem ingentem lignorum faciunt: eamque (quum et vis venti apta faciendo igni coorta esset) succendunt, ardentiaque saxa infuso aceto putrefaciunt." Now, Livy tells us nothing more here than that Hannibal, seeing that he must cut a passage through the rock, ordered his soldiers to fell and disbranch *a great number of immense trees* that grew around, with which he made them raise up a huge pile of wood, and, taking advantage of a powerful wind to aid him in kindling the mass, he set it on fire, and when the rocks were thus rendered hot, he made them fall to pieces by pouring on vinegar. Mr Gilpin's error has arisen from a mistake, which, in our experience, we have found to be a very common one. Because the larch is known to be an Alpine tree, people suppose that if not the only tree, it is at least the prevailing tree of the higher regions of the Alps. But this is very far from being the case. The larch is indeed an Alpine tree, but it is rarely found except in the great chasms or gullies of the mountain sides, or in some place where at least some degree of shelter is afforded to it by huge rocky prominences, or some other such defence. In this way it is found to climb to very high elevations. But so far as our own observation went, we found the common Scotch fir, the *Pinus sylvestris*, in higher elevations than any other tree. It is by no means improbable, therefore, that the *Pinus sylvestris* was the tree of which Hannibal made those enormous fires, of the effects of which Mr Gilpin's glowing fancy has sketched so magnificent a picture. The spruce, as we shall see by and by, is the prevailing tree of the Alps. We may notice here, that Hannibal might have saved his vinegar, and might have applied snow to the heated rocks, which would have answered his purpose quite as well. Of this, the peasants of the north of Scotland are well aware, for with them it is a common practice in improving waste land, to kindle bundles of straw, and other combustibles, on the top of a huge stone, and then to pour water upon it when it is heated, by which means it is shivered by the sudden and unequal contraction of the parts.

It is necessary to know something more of the history of a tree or a plant, than merely that it is a native of any particular country, before we can hope to give it that proper reception with us at home, which may be likely to ensure its domestication. It is said that the first larches introduced into Scotland, were sent to the father of the late Duke of Athol, in the year 1727, and the plants having arrived at Dunkeld along with some orange trees and a number of other Italian strangers, they were all treated in the same way as delicate Italians and were subjected to the suffocation of a hot-house. The unfortunate mountaineers languished, and, to all appearance, died, and were thrown out of the garden into a heap of rubbish created by the clearing and weeding of the ground. There the roots of some of them were afterwards accidentally covered by the farther additions which were made to the rubbish heap; and having now the advantage of breathing the pure air of heaven, and of being refreshed by the fostering rain which fell from the sky, they were so revived that they pushed forth their roots, began to shoot from their top and branches, and soon became vigorous.

Such is the popular account of the introduction of the first larches into Scotland; but, from all the evidence we can collect, those introduced by Sir James Nasmyth, Baronet, at Dawick in Tweeddale, in the year 1725, appear to have been the first larches planted in Scotland: for, from the account published in the Transactions of the Highland Society, under the authority of the late Duke of Athol's trustees, we learn that it was not until the year 1738, that Mr Menzies of Megeny, in Glenlyon, brought a few small larch plants from London, in his portmanteau, five of which he left at Dunkeld, and eleven at Blair in Athol, as presents to the then Duke of Athol. The five were planted in the lawn at Dunkeld, in an alluvial gravelly soil, abounding with rounded stones, and in a sheltered situation, at an elevation of forty feet above the river Tay, and one hundred and thirty feet above the level of the sea. Two of the five were felled by the late Duke, in 1809, and one had been cut, by mistake, by the gardener, about twenty years before, and made into mill-axles. One of the two felled in 1809, contained one hundred and forty-seven cubic feet of wood, and was sent to Woolwich dock-yard, and used as beams for the repair of the Serapis store ship; the other, containing one hundred and sixty-eight cubic feet, was bought on the spot by Messrs Sime and Co. shipbuilders, Leith, at three shillings per foot, or twenty-five pounds four shillings the tree. The two which remain are still growing in great vigour, as are also those which were planted at Blair. The author of the account tells us that, "In 1740, six larch plants were brought up in the green-house in Dunkeld, and not appearing to thrive, they were planted out, three on each side of it. They had evidently suffered from the warmth of the house; and though they are now fine trees of seven feet in girth, and although they are ninety years of age, they are much smaller than many larches which were planted after them. It is not mentioned whether they were raised from the seed or not. As five had been planted in the open air two years before, it is difficult to account for their being in the green-house at all, except on the supposition that they had been there raised from the seed. It appears to us, that the only way of reconciling this apparent difficulty, is by adopting the year and story we have already noticed as given by Dr Walker and others. Be this as it may, the early planted larches of Dunkeld and Blair have been the parents of the greater number of the larches now in Great Britain. The late Duke of Athol planted large districts with this tree, and thereby converted the heathy wastes into valuable forests. But this was not the whole of the improvement he thus created. The larch, being a deciduous tree, sheds upon the earth so great a shower of decayed spines every succeeding autumn, that the annual addition which is made to the soil cannot be less than from a third of an inch to half an inch, according to the magnitude of the trees. This we have had frequent opportunities of proving, by our remarks made on the surfaces of newly cleaned pleasure walks. The result of planting a moor with larches then, is, that when the trees have grown so much as to exclude the sun, and to diminish the air and moisture on the surface, the heath is soon exterminated; and the soil gradually increasing by the decomposition of the spines, or leaflets, annually thrown down by the larches, grass begins to grow as the trees rise in elevation, so as to allow greater freedom for the circulation of air below,—and thus land, which was not worth one shilling an acre, becomes most valuable pasture, and we can say that our own experience amply bears out the fact; whilst that of the Duke of Athol is most satisfactory on this point. The *Holcus mollis*, and the *Holcus lanatus*, are the plants which begin to spread a sward over the ground, and this first pasture goes on continually improving. The Duke of Athol found, that the value of the pasture in oak copses was worth five or six shillings per acre, for eight years only in every twenty-four years, when the copse is cut down again. Under a Scotch fir plantation, the grass is not worth sixpence more per acre than it was before it was planted. Under beech and spruce, it is worth less than it was before. Under ash, the value may be two or three shillings per acre more than it was in its natural state. But under larch, where the ground was not worth one shilling an acre before planting, the pasture becomes worth from eight to ten shillings an acre after the first thirty years, when all the thinnings have been completed, and the trees left for naval purposes, at the rate of about four hundred to the acre, and twelve feet apart. "Nay," says the *Account of the Larch Plantations of Athol and Dunkeld*, published by the Highland Society of Scotland, "so impressed was the Duke with the value of larch, as an improver of natural pasturage, that he makes a statement, to shew that the pasture alone, independent of the ship timber on it, would increase the value of land, by increasing its annual rental; so that it itself would repay the whole outlay of fencing and planting, at five per cent, compound interest, thus:

Three thousand acres of land, in its natural state, not worth above one shilling per acre, at twenty-five years' purchase, will give	£3750	0	0
Plants and planting, at six shillings an acre,	900	0	0
Two thousand four hundred roods of fencing, at five shillings per acre, . . .	600	0	0
Sundry expenses, at threepence per acre,	37	10	0
	£5287	10	0

£5287, 10s. at five per cent, compound interest, for twenty-nine years, the period at which the land is begun to be depastured, give £21,150; but three thousand acres, at an improved rent only of six shillings an acre, per annum, at twenty-five years' purchase, yield £22,500. The Duke has also left behind him some very satisfactory documents as to the great fattening properties of the pasture of larch woods.

Mr Gilpin's experience of the larch must have been very unfortunate, since he was led to consider that with us "it is little more than the puny inhabitant of a garden." It is true that we know of no *very fine* larches in England; and, perhaps, it is just because it is "there usually placed as the inhabitant of a garden," that it becomes *puny*. The larch does not ask for a rich soil,—gravel, or even the purest sand, will do perfectly well for its support, as we can speak from extensive experience. All it demands is, a soil so far loose as to be easily penetrated by its roots. Nay, what is perhaps a little extraordinary, we know that it is fully as well pleased to be deprived of the surface soil altogether. Sir James Montgomery Cunninghame has made very extensive larch plantations on his property of Ferness, on the banks of the river Findhorn. The worthy Baronet had long declared war against the prevailing practice of scarifying the already wretched surface of the moor ground, by cutting up the turfs for building hovels, and for other such purposes. This he had done most unsuccessfully. But, after the ground had been sometime planted, he was surprised to find that the trees, which happened to be placed where the sods had been removed, throve, not only twice as well, but ten times as well as those which had their lot fixed in the middle of the heath; and we have ourselves been able to trace the whole of the devious windings and turnings of the old cart-tracks through the moor by the mere circumstance, that the young larches which grew upon them were fully ten times as tall as the trees to right and left of them. Certainly Scotland is the country for the larch; and at Dunkeld, Blair, Monzie, and Gartmore, in Perthshire; at Alva, in Stirlingshire; at Panmure and Brechin Castle, in Forfarshire; at Cullen House, in Banffshire; at Gordon Castle and at Tarnawa, in Morayshire; and in many other parts of North Britain, the largest and most magnificent larches are to be found,—larches which have all the boldness of character and loftiness of bearing of those which we have beheld as the genuine natives of the Alps.

The larch is a very quick grower. Between 1740 and 1744, nine larch trees were planted at Dunkeld, the girths of which, when taken a few years ago, at four feet from the ground, range from eight feet one inch to eight feet ten inches. These trees are calculated to contain, on an average, each one hundred and fifteen feet of timber, or the whole contain one thousand and thirty-five feet. During the same period, eleven trees were planted at Blair, the girths of which, at growths from seventy-three to seventy-six years, ranged from eight feet two inches to ten feet. This lot was calculated to average one hundred feet each; in the whole, one thousand two hundred feet. The total measure of this lot of twenty-two trees, therefore, is two thousand six hundred and forty-five feet, which calculated, bark and all, at the moderate value of two shillings per foot, would give the sum of £264, 10s. for twenty-two larch trees, of something under eighty years old. We find, by the Duke of Athol's tables of measurement, that trees planted by him in 1743, were nine feet three inches in circumference, when measured at four feet from the ground, in the year 1795. Some of the first planted larches near Dunkeld, attained the height of one hundred and twenty feet in fifty years; and, even in the mountainous tracts of the Duke of Athol's plantations, the larch, at an elevation of one thousand five hundred, or one thousand six hundred feet, was found to produce three hundred cubic feet of timber in a growth of eighty years.

The plantations of larch made by Duke James between 1733 and 1759, amounted to one thousand nine hundred and twenty-eight trees. Of these eight hundred and seventy-three trees were cut down between 1809 and 1816. In 1817, there were one thousand and eighty-five left standing, containing, altogether, two thousand eight hundred and eighty-three loads, or one hundred and forty-four thousand one hundred and fifty feet of timber. This has lately been introduced into shipbuilding. The Sir Simon Taylor, a West Indiaman, was built by Sime, of Leith, for Mr Sibbald, partly of the Dunkeld larch; eleven trees, measuring one thousand and sixty-six feet, having been cut for the purpose, with a view to ascertain the value of this timber for shipbuilding: but this vessel was unfortunately lost on her first voyage.

The Duke of Athol had the satisfaction to behold a British frigate, built in 1819 and 1820, at Woolwich yard, out of larch timber planted at Dunkeld and Blair by himself and the Duke his predecessor. And the extensive and increasing larch forests of those districts, may yet be called upon largely to supply both our naval and mercantile dock-yards. Mankind are prone to cherish and embalm the memory of individuals whose claim to notoriety has originated in their wide spread destruction of the human race; but they are too apt to forget those who have been the benefactors of mankind. That a vessel, formed from trees of his introduction and planting, should have waved the British flag over the ocean, and startled its billows with the British thunder, is likely to be all the reward, contemporaneous or posthumous, which will ever adhere to the noble Duke for the great good he has done to his country, and for the blessed legacy he has left to his descendants, by the plantation of above fifteen thousand five hundred and seventy-three English acres of ground, which consumed above twenty-seven million four hundred and thirty-one thousand and six hundred trees.

As the future supply of larch for shipbuilding from the plantations of that wood throughout the country in general, is an interesting object of natural economy, we subjoin the following tabular view, calculated from the Athol plantations alone:—

Probable supply of larch wood for ship timber from Athol, beginning twelve years from 1817.

		Loads annually.	Scotch acres, about
12 years before cutting, or in	1829	——	
12 years cutting,	1841	1,250	
10 ditto	1851	8,000	2000
8 ditto	1859	18,000	
8 ditto	1867	30,000	
16 ditto	1883	52,000	3500
3 ditto	1886	120,000	
69 years calculated to finish 3 plants marked out,	1889	130,000	1500
72 years.		Scotch acres,	7000

N.B.—The oldest larches hitherto laid down at Woolwich yard, several ends of which exceed one and a half load, are only seventy-two years of age.

The larch is unquestionably by much the most enduring timber we have. It is remarkable, that whilst the red wood or heart wood is not formed at all in the other resinous trees till they have lived for a good many years, the larch, on the other hand, begins to make it soon after it is planted; and whilst you may fell a Scotch fir of thirty years old, and find no red wood in it, you can hardly cut down a young larch large enough to be a walking stick, without finding just such a proportion of red wood, compared to its diameter as a tree, as you will find in the largest larch in the forest, when compared to its diameter. To prove the value of the larch as a timber tree, several experiments were made in the river Thames, we believe, at the suggestion of the late Duke of Athol. Posts of equal thickness and strength, some of larch and others of oak, were driven down facing the river wall, where they were alternately covered with water by the effect of the tide, and left dry by its fall. This species of alternation is the most trying of all circumstances for the endurance of timber, and accordingly the oaken posts decayed, and were twice renewed, in the course of a very few years, whilst those which were made of larch remained altogether unchanged. We had ourselves occasion to erect a foot-bridge to carry a pleasure walk over a sunk road, and this we ordered to be constructed of two long stretching beams, covered transversely with larch planks. In fourteen or fifteen years afterwards we discovered symptoms of decay in the bridge, and ordered the carpenter to new plank it; but when he came to carry our directions into execution, he discovered that the whole planks were quite sound, with the exception of three, and that these three, which were rotten almost to powder, were Scotch fir planks, which had been taken, in a hurry, at the time the bridge was built, to supply a deficiency in the original number of the larch planks. "The larch," says Mr Sang, "bears the ascendancy over the Scotch pine in the following important circumstances: that it brings double the price, at least, per measurable foot; that it will arrive at a useful timber size in one half or a third part of the time, in general, which the fir requires; and, above all, that the timber of the larch at thirty or forty years old, when placed in soil and climate adapted to the production of perfect timber, is in every respect superior in quality to that of the fir at a hundred years old."

Some experiments were made at Woolwich, under the Duke of Athol's direction, by Messrs Barrallier and Peake, on the average and relative strength of larch as compared with two other descriptions of firs, the result of which was the following:—

	Average strength.			Relative strength.	
	cwt.	qrs.	lb.		
Larch, ...	1	1	8	1000	
Riga, dry, ...	1	0	7	804	or about 1-5th less than the larch.
American white pine, wet, ...	1	0	10	824	

Mr Tredgold, the celebrated engineer, also made experiments on the comparative strength of Athol larch, Riga fir, Memel fir, and English oak. These results first appeared in Tilloch's *Philosphical Magazine*, in March, 1818.

The pieces were each an inch square, except No. 3, which was only 8-10ths of an inch in breadth. The numbers in the Table shew the weights it would have borne if it had been an inch square; the pieces were supported at each end, and were loaded by putting 5 lb. at a time into a scale suspended from the middle, — the distance between the supports were thirty inches.

Description of Timber.	No. 1. Memel Timber.	No. 2. Red Larch.	No. 3. Red Larch, old and verydry	No. 4. English Oak.	No. 5. English Oak.	No. 6. Riga Timber.
Compar. stiffness, — or the weight that bent each piece half an inch,	145 lb.	80 lb.	93 lb.	60 lb.	65 lb.	125 lb.
Compar. strength, — or the weight that broke each piece,	212 lb.	253 lb.	295 lb.	222 lb.	231 lb.	212 lb.
Compar. extensibility, — or the space through which the middle had bent at the time of fracture,	inch. 2.25	inch. 3	inch. 2.75	inch. 2.5	inch. 1.4	inch. 1.3
Weight of a cubic foot of each kind of timber in the nearest whole numbers,	34 lb.	40 lb.	31 lb.	41 lb.	46 lb.	30 lb.
Remarks.	Broke short.	Splintered.	Broke short.	Broke short.	Splintered.	Broke short.

As the strength of small pieces depends much on the position of the annual rings, the pieces were placed as nearly alike in this respect as possible. When the pieces were in the position in which they were broken, the dark lines, or portions of the annual rings that appear in the section of a piece, were vertical. From the results exhibited in the preceding table, it appears very clearly that larch is best adapted to resist the force of a body in motion.

But to leave no doubt of the superior resilience of larch timber, the following experiments were made. These were performed by Mr Tredgold, in the presence of his Grace the Duke of Athol, Mr Atkinson, architect to the Ordnance, and others.

The pieces were each an inch in depth, and they were laid upon supports, thirty inches apart. The weight fell between two vertical guides, (similar to a pile engine,) upon the middle of the piece.

No. of Exper.	Description of Timber.	Breadth of the Piece.	Weight	Height from which the Weight fell.	Effects.
No. 7.	Oak, same kind as No. 4.	1 inch.	7 lb.	48 inches.	Broke.
No. 8.	Larch, same kind as No. 2.	1 inch.	7 lb.	48 do.	No effect.
	The same			54 do.	No effect.
	The same			60 do.	Set to a slight curve.
	The same			66 do.	A little more curved.
	The same			72 do.	Curved about an inch.
	The same, convex side upwards			72 do.	Curved the contrary way.
	The same		14 lb.	42 do.	Broke.
No. 9.	Larch, same kind as No. 3.	0.8 inch.	14 lb.	48 do.	No effect.
	The same			54 do.	Broke.
No. 10.	Oak, same kind as No. 5.	1 inch.	7 lb.	48 do.	No effect.
	The same			54 do.	Broke.
No. 11.	English Oak	1 inch.	7 lb.	54 do.	No effect.
	The same			60 do.	Broke.

No. 11. was a dark coloured, and apparently very strong piece of wood; specific gravity 0.872, or 54½ lb. per cubic foot. On the whole, then, it appears that larch is superior to oak in stiffness, in strength, and in the power of resisting a body in motion, (called resilience;) and it is inferior to Memel or Riga timber in stiffness only.

Larch may be used for all the purposes for which the best foreign hard pine timber is used, and for many of those of oak. A good many trading vessels have been built in the Moray Firth, and especially at Findhorn, of larch grown within these fifty years on the neighbouring estates, and, so far as we can learn, these have all given most perfect satisfaction. The only objection this timber has, is, that it is liable to warp and cast; but this evil might perhaps be prevented by giving the logs a sufficient time to season, for, it must be observed, that, so far as its endurance is concerned, it will last just as well by being cut from the forest and put directly into the work, one of its qualities which, we suspect, may lead to the circumstance of its having obtained a character for warping, which, if otherwise treated, it might not deserve. The larch also possesses another property, which it shares with the oak, — we mean the tanning powers of its bark; and we are disposed to believe that its value in this department is as yet only half appreciated.

Though we should least expect to find such a quality in a resinous tree like the larch, it has been proved to make a beautiful hedge, and to submit with wonderful patience to the shears. We once saw a very pretty fence of this description in a gentleman's pleasure ground near Loch Lomond. The trees were planted at equal distances from each other, and being clipped, were half cut through towards the top, and bent down over each other, and, in many instances, the top shoot of one had insinuated itself into that adjacent to it, so as to have become corporeally united to it; and, strange as it may seem, we actually found one top that had so inserted itself, which, having been rather deeply cut originally by the hedge-bill, had actually detached itself from its parent stock, and was now growing, grafted on the other, with the lower part of it pointing upwards into the air!

Of the *Pinus larix*, there is a variety with red, and another with white flowers; one with cinereous bark, called the Russian Larch, and one with pendulous branches. There are also the Black Larch, *Pinus pendula*, and the Red Larch, *Pinus microcarpa*, natives of America, by some considered distinct species.

The larch is much infested, in this country, with the insect peculiar to it, which we shall call the Chermes Pini. The male of this insect is an active winged fly, whilst the female is without wings, and one of the most inert of the things possessed of life. The female is generally found adhering to the axillary angles of the last year's buds, like a brown scale. It lives upon the resinous sap of the tree, which it seems to pump up by inserting its proboscis into the bark, and the resinous matter exudes, in a floculent and white state, from certain tuberculated pores in the thorax, abdomen, and cauda, covering the creature with what, to the careless observer, looks like a woolly or cottony substance. When the period of its oviposition arrives, it attaches the eggs to the bark, one by one as they are excluded, by minute resinous filaments, spun from a mamellary protuberance in the breast. It lays eighty or a hundred eggs, or more, of a long kidney shape, and the attaching filaments are applied to the ends of them, so that, when one is touched by a delicate instrument, the whole are thereby put in motion. It appears that instinct teaches the insect to leave that end of the egg at liberty, where the head of the pupa lies, and the wonderful provision of the Great Creator of the universe is such, that the heat necessary for the perfection of the enclosed pupæ, and that for the growth of the young shoot of the tree from the bud, being exactly equal, the shoot has no sooner reached that size and state which renders it fitting food for the infant animals, than they are ready to burst their cerements, and to travel upwards to revel on its juices. The pupæ have six legs, and are extremely active. Our examinations of these creatures were minute, and frequent, and long continued, and our observations many; but we have not room to give them in detail here. We may remark, however, that in the vast plantations which we subjected to our inspection, in many of which the trees were whitened with them, as if by a hoar frost, we could discover but two or three individual larches which appeared to be actually killed by the operations of the Chermes Pini, though many were manifestly much retarded in their growth by their operations. But their havoc was dreadful on the silver firs, of which we shall have occasion to speak anon. In the Alps, we could not detect the insect at all, except, we think, on one occasion, and then a few individuals merely were observable on one tree. The planters of larch were at one period very much alarmed at the evils which they anticipated from the devastations of this insect; but from all we have seen, we are inclined to think that the effects of their ravages are little to be apprehended.

Before proceeding with Mr Gilpin to the consideration of the evergreen trees, we think we ought to notice one or two deciduous trees which he has overlooked, but which must find a place either in the forest, the park, or the pleasure ground.

The *Prunus avium*, of the class and order *Icosandria monogynia*. The Wild Cherry, or Guigne, may very well be called a forest tree, seeing that, in many parts of the wilds of Scotland, it is almost as numerous, and propagates itself as fast, as the birch; it grows, moreover, to be a very handsome timber tree, and the wood of it makes very pretty furniture. In form, it is oftener graceful than grand; and its foliage is rather too sparse to produce that tufty effect which gives breadth of light and depth of shadow enough to please the painter's eye. But on the cliffs of romantic rivers, such as the Findhorn, and other Scottish streams of the same character, where it is stinted of soil, it often shoots from the crevices of the rocks in very picturesque forms; and the scarlet of its autumnal tint, when not in excess, sometimes produces very brilliant touches in the landscape, when the neighbouring trees happen to be in harmony with it. This much we have hazarded as artists; and to conclude, we must assert, that when merely considered as a natural object, nothing can be more splendid than its appearance when covered with a full blow of flowers in spring, or more gorgeous than the hue of its autumnal livery.

The *Cytisus laburnum*, or *Cytisus alpinus*, of the class and order *Diodelphia decandria*, the Laburnum. This is often a large growing tree, and although we have not frequently seen it assume that character which would make its form an object of desire for the artist, yet its rich leguminous golden flowers give it great value for the pleasure ground. It is, moreover, a hardy tree, and we can answer, from our own experience, that the timber, when made into chairs and other pieces of furniture, and allowed to darken, is sometimes hardly distinguishable from rosewood. If not allowed to get dark, the outer wood remains of a delicate yellow; the heart wood is always of a deep hue. It is extremely hard, and so heavy, that it will sink in water; and the French, who make great use of it, call it the Ebony of the Alps, because it is a native of the valleys of these mountains. The timber of this tree is indeed the highest in price of any that grows in Britain. A considerable quantity of laburnum was sold by public sale at Brechin Castle and Panmure, in 1809, at fully half a guinea per foot. The tree is very abundant in that neighbourhood, the roads being often bordered with it. There is a shrub variety of the laburnum, which, in its department, is no less beautiful. The true sort is easily distinguished from the shrub by the greater size of the leaves, and the superior length of the bunches of papilionaceous flowers.

The *Lyriodendrom tulipifera*, the Tulip Tree, or Saddle Tree, is of the class and order *Polyandria polyginia*. Michaux tells us, that, in its native country, it surpasses most other trees of North America in height, and in the beauty of its foliage and of its flowers. It is also one of the most interesting trees of America, from the numerous and useful applications of its wood. Throughout the greater part of the United States it is called Poplar; in New York and New Jersey it is known by the name of White Wood and Canoe Wood, and more rarely by that of Tulip Tree, which denomination, however, best characterizes the beautiful flower with which it is covered. In the deep, loamy, and fertile soils of the Atlantic States, the tulip tree often reaches the height of one hundred feet, with a diameter of three feet; but, on the road from Beard Stone to Louisville, the elder Michaux found one which, at five feet from the ground, measured twenty-two feet six inches in girth, and which was about one hundred and forty feet high. The perfect straightness and uniform diameter of its trunk for upwards of forty feet, the regular disposition of its branches, the great richness of its foliage, and the grandeur of its odoriferous flowers, entitle it to be considered as one of the most magnificent vegetables of the temperate zones. We have seen very handsome specimens of this tree in Great Britain. Perhaps one of the largest, both as to trunk and spread of the branches, which has come under our notice, was one which we saw in the garden of a school for young gentlemen at Brook Green, Hammersmith. The limbs of it were so large, that we found a number of the youths perched on them in the midst of its grateful shade, reading the Waverley Novels, whilst their companions were busy at play below. But even this tree sinks into insignificance when compared with those we have mentioned, although its grandeur might well enough enable us to fancy what must be their magnificence.

The heart of the tulip tree is yellow, approaching to lemon colour, and the alburnum is white; and though a light wood, it is heavier than the poplars. It is used for coach panels, and for the construction of bridges, and other purposes. A remarkable circumstance regarding it is, that when the chips of the heart are left buried for three or four weeks among leaves on the ground, the lower part becomes of a deep blue, and they exhale a fetid ammoniacal odour. The bark has an agreeable smell, and a very bitter taste, and it is used in tincture as a cure for intermittent fevers; and, in Paris, a spirituous liquor is made from the roots. We most cordially agree with Michaux in thinking, that it is much to be desired that it should be multiplied in our forests.

From deciduous trees, we proceed to Evergreens. Of these the Cedar of Lebanon claims our first notice. To it pre-eminence belongs, not only on account of its own dignity, but on account of the respectable mention which is every where made of it in Scripture. Solomon spake of trees "from the cedar of Lebanon, to the hyssop that springeth out of the wall;" that is, from the greatest to the least. The Eastern writers are indeed the principal sources from which we are to obtain the true character of the cedar, as it is an eastern tree. In the sacred writers particularly we are presented with many noble images drawn from its several qualities. It is generally employed by the prophets to express strength, power, and longevity. The strength of the cedar is used as an emblem to express the power even of Jehovah: " The voice of the Lord breaketh the cedars of Lebanon." David characterizes the palm tree and the cedar together, both very strongly: " The righteous shall flourish like a palm tree; and spread abroad like a cedar of Lebanon." The flourishing head of the palm, and the spreading abroad of the cedar, are equally characterestic.

But the prophet Ezekiel hath given us the fullest description of the cedar:

" Behold the Assyrian was a cedar in Lebanon, with fair branches, and with a shadowing shroud, and of an high stature; and his top was among the thick boughs. His boughs were multiplied, and his branches became long. The fir trees were not like his boughs, nor the chestnut trees like his branches, nor any tree in the garden of God like unto him in beauty."*

In this description two of the principal characteristics of the cedar are marked.

The first is the multiplicity, and length of his branches. Few trees divide so many fair branches from the main stem, or spread over so large a compass of ground. His boughs are multiplied, as Ezekiel says, and his branches became long, which David calls spreading abroad.

The second characteristic is, what Ezekiel, with great beauty and aptness, calls his shadowing shroud. No tree in the forest is more remarkable than the cedar for its close-woven leafy canopy.

Ezekiel's cedar is marked as a tree of full and perfect growth, from the circumstance of its top being among the thick boughs. Almost every young tree, and particularly every young cedar, has what is called a leading branch or two, which continue spiring above the rest till the tree has attained its full size: then the tree becomes, in the language of the nurseryman, clump headed; but, in the language of eastern sublimity, its top is among the thick boughs; that is, no distinction of any spiry head, or leading branch, appears: the head and the branches are all mixed together. This is generally, in all trees, the state in which they are most perfect and most beautiful.

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* Ezek. xxxi.

But though Ezekiel hath given us this accurate description of the cedar, he hath left its strength, which is its chief characteristic, untouched. But the reason is evident. The cedar is here introduced as an emblem of Assyria, which, though vast, and wide-spreading, and come to full maturity, was, in fact, on the eve of destruction. Strength, therefore, was the last idea which the prophet wished to suggest. Strength is a relative term, compared with opposition. The Assyrian was strong compared with the powers on earth; but weak, compared with the arm of Providence, which brought him to destruction. So his type, the cedar, was stronger than any of the trees of the forest, but weak in comparison with the axe, which cut him off; and left him (as the prophet expresses the vastness of his ruin) spread upon the mountains, and in the valleys: while the nations shook at the sound of his fall.

Such is the grandeur and form of the cedar of Lebanon. Its mantling foliage, or shadowing shroud, as Ezekiel calls it, is its greatest beauty; which arises from the horizontal growth of its branches forming a kind of sweeping, irregular penthouse. And when to the idea of beauty, that of strength is added by the pyramidal form of the stem, and the robustness of the limbs, the tree is complete in all its beauty and majesty.

In these climates, indeed, we cannot expect to see the cedar in such perfection. The forest of Lebanon is perhaps the only part of the world where its growth is perfect; yet we may in some degree conceive its beauty and majesty, from the paltry resemblances of it at this distance from its native soil. In its youth, it is often with us a vigorous thriving plant; and if the leading branch is not bound to a pole, (as many people deform their cedars,) but left to take its natural course, and guide the stem after it in some irregular waving line, it is often an object of great beauty. But in its maturer age, the beauty of the English cedar is generally gone: it becomes shrivelled, deformed, and stunted; its body increases, but its limbs shrink and wither. Thus, it never gives us its two leading qualities together. In its youth we have some idea of its beauty without its strength; and in its advanced age we have some idea of its strength without its beauty: the imagination, therefore, by joining together the two different periods of its age in this climate, may form some conception of the grandeur of the cedar in its own climate, where its strength and beauty are united. The best specimen of this tree I ever saw in England, was at Hillington, near Uxbridge. The perpendicular height of it was fifty-three feet, its horizontal expanse ninety-six, and its girth fifteen and a half. When I saw it in 1776, it was about one hundred and eighteen years of age, and being then completely clump-headed, it was a very noble and picturesque tree. In the high winds about the beginning of the year 1790, this noble cedar was blown down. Its stem, when cut, was five feet in diameter.

Pinus cedrus, the Cedar of Lebanon, class and order *Monoecia monadelphia.* Considering that the cedar, in its native soil, has its roots covered with snow in winter, and that we have many very noble specimens of the tree in Britain, it is wonderful that it has not been more planted among us. Besides the Hillington tree, various individual cedars of Lebanon are mentioned as having attained a great size in England. One brought direct from Mount Libanus, and planted by Dr Uvedale in the manor-house garden at Enfield, about the middle of the seventeenth century, had a girth of fourteen feet in 1789. Eight feet of the top of it had been blown down by the hurricane in 1703, but still it was forty feet in height. Its contents, exclusive of boughs, were about two hundred and ninety-three cubic feet. Its top was again injured in 1794. Its measurement in 1821 was seventeen feet in girth, at one foot from the ground; sixty-four feet in perpendicular height; and it contained five hundred and forty-eight cubic feet of timber, exclusive of the branches, which extended eighty-seven feet from north-east to south-west, and contained about two hundred and fifty feet of timber,—making the whole about eight hundred cubic feet. Mr Strutt, who gives us an admirable etching of this tree, in his superb work the *Sylva Britannica*, tells us, that it was some years ago destined to be cut down by a person who had purchased the ground. The trench was dug, the saw-pit prepared, and the ax almost lifted up for its destruction; but all the respectable inhabitants of the place were so excited at the prospect of losing the tree, that he was actually shamed into the abandonment of his design. At Whitton, in Middlesex, a remarkable cedar was blown down in 1779. It had attained the height of seventy feet, and the branches covered an area of one hundred feet in diameter. The trunk was sixteen feet in circumference at seven feet from the ground, and twenty-one feet at the insertion of the great branches twelve feet above the surface. There were ten principal limbs, averaging twelve feet each in girth. Some attribute this tree to the age of Elizabeth. Some cedars planted in a favourable soil at Lord Carnarvon's at Highclere, have grown with great rapidity. Of the cedars planted in the Royal Gardens at Chelsea in 1683, two had in eighty-three years acquired a circumference of more than twelve feet, at two feet from the ground, while their branches extended over a circular space forty feet in diameter. Seven and twenty years afterwards, the trunk of the largest had increased more than half a foot in circumference. The Chelsea cedars are most picturesque trees; and there are still more magnificent trees of this kind at Whitton Park, Zion House, Pains Hill, Warwick Castle, Stowe, Blenheim, and other places.

But the cedar seems to thrive fully as well, if not better, in Scotland than in England. A cedar of Lebanon, at Niddrie Marischall, near Edinburgh, at eighteen inches above the ground, measures eight feet two inches in girth; and at six feet up, it is ten feet four inches. A cedar of Lebanon, in the grounds of Mr Burn Callendar, at Prestonhall, in the county of Edinburgh, measures, at one foot from the ground, eleven feet six inches in girth; at three feet from the ground, it is ten feet round; and at four feet, it is nine feet nine inches. Dr Walker, late Professor of Natural History in the University of Edinburgh, measured a cedar of Lebanon at Hopetoun House, the printed essay says, in 1797, but manifestly an erratum for 1779. He found its circumference to be five feet one inch. He says farther, that it was larger than two other trees of the same kind, and of the same age, which he

TRYSTING TREE

near Roxburgh Castle

attributes to the circumstance of its being planted by the side of a little rill of water. He remarks farther, that the cedar appears not to have been planted in Scotland until after the year 1730. Coming, as it does, from a warm country, he says, it has always been placed in gardens in a dry soil and warm exposure. This, however, is quite a mistaken situation for the cedar, which is properly an Alpine tree. The country in Syria, adjacent to Lebanon, is indeed warm, but the mountain itself is of a great height, and of a very different climate. The cedars of Lebanon grow in a wet mountain soil, and are exposed to as much frost and snow as occurs in most parts of Scotland. We therefore never find that the cedar is hurt by frosts in this country. But being placed in gardens, and in a dry situation, both with regard to soil and climate, it turns out to be a mere bush, compared to that lofty tree which it naturally ought to be. The four cedars in Chelsea garden were planted, each at the corner of a square pond, in a very wet situation. In the low parts of Scotland, the cedar can scarcely be placed too wet; and will succeed better in a wet mountain soil in a Highland wood, than in the best garden in the country.

We felt some desire to know the present state of these cedars at Hopetoun House, and therefore we applied to Mr Smith, gardener to the Earl of Hopetoun, well known as an intelligent contributor to the *Caledonian Horticultural Transactions*. He writes to us as follows: "The three cedar trees mentioned by Dr Walker, are still growing vigorously at Hopetoun House. The one near the rill of water, is now less than the other two. This proceeds from its being planted in gravel. The other two are planted at the bottom of a gently sloping bank, and are probably penetrating into a rich damp soil. These trees are growing more rapidly than any other trees at Hopetoun House. They were brought here by John, Duke of Argyle, and planted in 1748. Dr Walker has certainly made a mistake in making the date of his measurement 1797, for we know that the tree was ten feet in circumference in 1801, and it is quite impossible that it could have increased four feet eleven inches in four years. Perhaps the year ought to have been 1779. The following is a table of the measurement of the three cedars, at four different periods:—

	1801.		1820.		1825.		1833, July 18.		Increase in 32 years.	
	Feet.	In.	Feet.	In.	Feet.	In.	Feet.	In.	Feet.	In.
First cedar, . .	10	0	13	1½	14	0	15	1	5	1
Second do. . . .	8	6	10	9½	11	4	12	3	3	9
Third do. being that near the rill, .	7	10	9	9½	10	8	11	6	3	8
A chestnut, measured at the same periods, only increased									2	7

"The first cedar is measured at eighteen inches from the ground, as limbs strike out immediately above that height. The other two are measured at three feet from the ground. The cedar of Lebanon swells faster in girth than any other tree about this place. I have not the least doubt of the correctness of Dr Walker's observations on the cedar; and I am persuaded the tree will grow well in Scotland, if planted in proper soils and situations. I have been informed by Sir Alexander Hope, when on a visit to the Earl of Pembroke, that he found several of his Lordship's cedars eighteen feet in circumference, and that they were growing only two feet above the level of a neighbouring pond. Allow me to add, that I think it a shame to the cultivators of trees in Scotland, that the cedar of Lebanon has been so long neglected; and I beg to entreat of you to try and bring it more into notice, and to wipe away the disgrace which poor old Scotland labours under, with regard to these trees. How great the contrast presented by a Captain Edward, in Ireland, who has planted two acres of the cedar of Lebanon, which are said to be growing like larches."

We must say, that we enter most keenly into the patriotic feelings here expressed by Mr Smith. Our own experience tells us, that a cedar of Lebanon which was planted in a shrubbery at Relugas in Morayshire, and in a spot very far from favourable, for its roots are on a dry gravel, has wonderfully kept pace with a larch, which chose to sow itself within a few yards of it. But as the dry soil is quite suited to the larch, and by no means so to the cedar, it is probable that the latter will very speedily be left far behind. We learn from Mr Lawson, of the Golden Acre Nursery at Edinburgh, a gentleman well known for his judgment and science in arboriculture, that in July, 1832, Mr Cruikshanks, the Duke of Hamilton's forester, pointed out to him a cedar of Lebanon growing by the side of a rivulet near Hamilton, in a common plantation, amongst larch and other trees, by the closeness of which it had evidently been drawn up with much fewer branches than it would have otherwise exhibited, if standing singly. No attention had been paid to it, as it had been planted originally, by mistake, as a larch. So far as Mr Lawson could judge, it appeared to be about thirty years old, and it considerably exceeded the neighbouring larches in height and girth. Mr Cruikshanks was of opinion, that cedars ought to be planted generally in the same manner as larches; and Mr Lawson says, that when planted for timber, they should be planted in groves, so as to draw each other up with few branches. It appears to us that the cedar has all along been mistaken, precisely as the larch was at first, and that it should be planted extensively and hardily. But the great difficulty at present is to get plants. He, therefore, who should be the means of bringing into the country large quantities of the seed gathered from proper parent trees in Libanus, or elsewhere, would, in our opinion, be a very great benefactor to these islands, and to Scotland in particular. There are, however, a good number of pet cedars in Scotland as well as in England, so that, notwithstanding the indolence of British planters with respect to this tree, we believe that the celebrated forests of Lebanon cannot now boast of so many cedars as our own island can do. Solomon's forty score thousand Jewish hewers produced considerable havoc, and time has done the rest of the work of destruction; for Maundrell, in his journey from Aleppo to Jerusalem, in 1696, could find only sixteen large trees, though there were many small ones. One of the largest measured twelve yards and six inches in girth, and was yet sound.

After the cedar, the Stone Pine deserves our notice. It is not indigenous to our soil, but, like the cedar, it is in some degree naturalized; though in England it is rarely more than a puny, half-formed resemblance of the Italian pine. The soft clime of Italy alone gives birth to the true picturesque pine. There it always suggests ideas of broken porticos, Ionic pillars, triumphal arches, fragments of old temples, and a variety of classic ruins, which in Italian landscape it commonly adorns.

The stone pine promises little in its infancy in point of picturesque beauty. It does not, like most of the fir species, give an early indication of its future form. In its youth it is dwarfish and round headed, with a short stem, and has rather the shape of a full-grown bush than of an increasing tree. As it grows older, it does not soon deposit its formal shape. It is long a bush, though somewhat more irregular, and with a longer stem. But as it attains maturity, its picturesque form increases fast. Its lengthening stem assumes commonly an easy sweep. It seldom indeed deviates much from a straight line, but that gentle deviation is very graceful, and above all other lines difficult to imitate. If accidentally either the stem or any of the larger branches take a larger sweep than usual, that sweep seldom fails to be graceful. It is also among the beauties of the stone pine, that, as the lateral branches decay, they leave generally stumps, which, standing out in various parts of the stem, break the continuity of its lines.

The bark is smoother than that of any other tree of the pine kind, except the Weymouth; though we do not esteem this among its picturesque beauties. Its hue, however, which is warm and reddish, has a good effect; and it obtains a kind of roughness by peeling off in patches. The foliage of the stone pine is as beautiful as the stem. Its colour is a deep warm green; and its form, instead of breaking into acute angles, like many of the pine race, is moulded into a flowing line by an assemblage of small masses.

As age comes on, its round clump head becomes more flat, spreading itself into a canopy, which is a form equally becoming. And yet I doubt whether any resinous tree ever attains that picturesque beauty in age, which we admire so much in the oak. The oak continues long vigorous in his branches, though his trunk decays; but the resinous tree, I believe, decays more equally through all its parts, and in age, oftener presents the idea of vegetable decrepitude, than of the stout remains of a vigorous constitution. And yet, in many circumstances, even in this state, it may be an object of picturesque notice.

Thus we see, in the form of the stone pine, what beauty may result from a tree with a round head, and without lateral branches, which requires indeed a good example to prove. When we look at an ash or an elm, from which the lateral branches have been stripped, as is the practice in some countries, we are apt to think, that no tree with a head placed on a long stem can be beautiful; yet in Nature's hands, which can mould so many forms of beauty, it may easily be effected. Nature herself, however, does not follow the rules of picturesque beauty in the production of this kind of object. The cabbage tree, I suppose, is as ugly as the stone pine is picturesque. The best specimen of the stone pine I ever saw, grows in the botanical garden at Oxford.

We quite agree with our author as to the picturesque beauty of the Stone Pine, *Pinus pinea*. We frequently find it introduced into the landscapes of Claude; the artist availing himself of its heavy deep-toned mass of foliage to give effect to the brilliancy of his sky and distance. It is quite associated in our minds with Italy and her magnificent remains.

The most beautiful succedaneum of the stone pine which these climates afford, is the Pinaster. The sweep of its stem is similar, its broken branches likewise, and its clump head. Both trees also are equally irregular in their growth, but the pinaster is perhaps more picturesque in the roughness of its dark gray bark. On no trees have I seen broader and better varied masses of light and shade; but the closeness of the pinaster's foliage makes its head sometimes too heavy.

The Cluster Pine also is a beautiful tree, and approaches perhaps as near the stone pine as the pinaster does. But I scarce recollect ever to have seen it in a state of full maturity and perfection. If we may judge, however, from a growth of thirty or forty years, (at which age I have often seen it,) it shoots in so wild and irregular a manner, so thick, rich, and bushy, that we may easily conceive how picturesque a plant it must be in a state of full perfection. Its cones, too, which it bears in clusters, from whence it derives its name, are a great ornament to it. In composition, indeed, such minutiæ are of little value; but we are now considering trees as individuals.

So far as we know, there is no real distinction between the Pinaster and the Cluster Pine. The tree is called the *Pinus pinaster*. It is a forest tree of considerable size, especially on the western shores of Scotland. Some of the largest specimens are at Culzean Castle, on the sea coast of Ayrshire. It is so hardy as to be recommended by the judicious Sang as a nurse for other trees.

The Weymouth Pine has very little picturesque beauty to recommend it. It is admired for its polished bark. The painter's eye pays little attention to so trivial a circumstance, even when the tree is considered as a single object. Nay, its polished bark rather depreciates its value, for the picturesque eye dwells with more pleasure on rough surfaces than on smooth; it sees more richness in them, and more variety. But we object chiefly to the Weymouth pine on account of the regularity of its stem, and the meagreness of its foliage. Its stem rises with perpendicular exactness; it rarely varies, and its branches issue with equal formality from its sides. Its foliage, too, is thin, and wants both richness and effect. If I were speaking indeed of this tree in composition, I might add, that it may often appear to great advantage in a plantation. Contrast, we know, produces beauty even from deformity itself. Opposed, therefore, to the wildness of other trees, the regularity of the Weymouth pine may have its beauty: its formality may be concealed. A few of its branches hanging from a mass of heavier foliage, may appear light and feathery, while its spiry head may often form an agreeable apex to a clump.

We confess that the Weymouth Pine, *Pinus strobus*, is no great favourite of ours, although some people call it an elegant tree. It is denominated the White Pine by Michaux; and were it to grow with us, as he says it does in North America, to the height of one hundred and eighty feet, and five or six feet in diameter, at three feet from the ground, we might then entertain a different opinion of it; and, indeed, it must be confessed, that where a tree is planted in a soil and climate that does not suit it, the chances are that it must turn out sickly, and ugly looking, as well as diminutive. This is the white American wood which is so largely imported into Great Britain for finishing the interior of houses, and various other purposes. The tree flourishes in the centre of France; but Michaux says that it would succeed better on the borders of the Rhine, in the valleys of the Alps and Pyrenees, and in the cold and humid climates of Germany, Poland, and Russia. Its vegetation is more vigorous in Belgium than near Paris; but, although we do recollect to have seen some large trees in various parts of Scotland, yet we have met with few which did not exhibit, if not the reality, at least the semblance of decay.

Having thus considered the pine race, we next take a view of a tribe nearly allied to them, — that of Firs. In what the distinction between these two tribes consists, (though, I apprehend, it consists in little more than in that between genus and species,) the botanist will explain. I profess myself an observer only of outward characters. What we usually call the Scotch Fir, appears to me to approach nearer the pine in its manner of growth, than it does any of its nominal class. As this tree, therefore, seems to be of ambiguous nature, at least as to its form, I shall place it here — that is, immediately after the pines, and before the firs, that it may with facility join one party or the other, as the reader's botanical principles incline.

The Scotch Fir is a Pine, the *Pinus sylvestris.* Michaux tells us, that the *Pinus* is easily distinguished from the *Abies*, or fir, by the leaves or spines, which more or less resemble longish pieces of coarse thread, united to the number of two, three, or five, in the same sheath. Those of the *Abies*, or spruce firs, on the other hand, are short, and are attached singly round the circumference of the branch, or upon its opposite sides. This seems to be a very happy scientific division; but according to the arrangement of Linnæus, they are all of the *Pinus* family.

The Scotch fir, in perfection, I think a very picturesque tree, though we have little idea of its beauty. It is generally treated with great contempt. It is a hardy plant, and therefore put to every servile office. If you wish to screen your house from the south-west wind, plant Scotch firs, and plant them close and thick. If you want to shelter a nursery of young trees, plant Scotch firs, and the phrase is, you may afterwards weed them out as you please. This is ignominious. I wish not to rob society of these hardy services from the Scotch fir; nor do I mean to set it in competition with many of the trees of the forest, which in their infant state it is accustomed to shelter: all I mean is, to rescue it from the disgrace of being thought fit for nothing else, and to establish its character as a picturesque tree. For myself, I admire its foliage, both the colour of the leaf and its mode of growth. Its ramification, too, is irregular and beautiful, and not unlike that of the stone pine, which it resembles also in the easy sweep of its stem, and likewise in the colour of the bark, which is commonly, as it attains age, of a rich reddish brown. The Scotch fir indeed, in its stripling state, is less an object of beauty. Its pointed and spiry shoots, during the first years of its growth, are formal; and yet I have sometimes seen a good contrast produced between its spiry points and the round-headed oaks and elms in its neighbourhood. When I speak, however, of the Scotch fir as a beautiful individual, I conceive it when it has outgrown all the improprieties of its youth—when it has completed its full age — and when, like Ezekiel's cedar, it has formed its head among the thick branches. I may be singular in my attachment to the Scotch fir—I know it has many enemies — but my opinion will weigh only with the reasons I have given.

The great contempt, indeed, in which the Scotch fir is commonly held, arises, I believe, from two causes.

People object, first, to its colour. Its dark murky hue is unpleasing. With regard to colour in general, I think I speak the language of painting, when I assert that the picturesque eye makes little distinction in this matter. It has no attachment to one colour in preference to another, but considers the beauty of all colouring, as resulting not from the colours themselves, but almost entirely from their harmony with other colours in their neighbourhood. So that as the fir tree is supported, combined, or stationed, it forms a beautiful umbrage or a murky spot.

A second source of that contempt in which the Scotch fir is commonly held, is our rarely seeing it in a picturesque state. Scotch firs are seldom planted as single trees, or in a judicious group; but generally in close compact bodies, in thick array, which suffocates, or cramps them; and if they ever get loose from this bondage, they are already ruined. Their lateral branches

are gone, and their stems are drawn into poles, on which their heads appear stuck as on a centre. Whereas, if the tree had grown in its natural state, all mischief had been prevented. Its stem would have taken an easy sweep, and its lateral branches, which naturally grow with as much beautiful irregularity as those of deciduous trees, would have hung loosely and negligently; and the more so, as there is something peculiarly light and feathery in its foliage. I mean not to assert that every Scotch fir, though in a natural state, would possess these beauties, but it would at least have the chance of other trees; and I have seen it, though indeed but rarely, in such a state as to equal in beauty the most elegant stone pine.

All trees indeed, crowded together, naturally rise in perpendicular stems; but the fir has this peculiar disadvantage, that its lateral branches, once injured, never shoot again. A grove of crowded saplings, elms, beeches, or almost of any deciduous trees, when thinned, will throw out new lateral branches, and in time recover a state of beauty; but if the education of the fir has been neglected, he is lost for ever.

Some of the most picturesque trees of this kind perhaps in England, adorn Mr Lenthall's deserted and ruinous mansion of Basilsleigh, in Berkshire. The soil is a deep but rich sand, which seems to be a soil adapted to them; and as they are here at perfect liberty, they not only become large and noble trees, but they expand themselves likewise in all the careless forms of Nature. No man therefore has a right to depreciate the Scotch fir, till he has seen it here, or in some other place, in a perfect state of Nature.

We agree with Mr Gilpin, to the fullest extent, in his approbation of the Scottish fir as a picturesque tree. We, for our parts, confess, that when we have seen it towering in full majesty, in the midst of some appropriate Highland scene, and sending its limbs abroad with all the unconstrained freedom of a hardy mountaineer, as if it claimed dominion over the savage regions around it, we have looked upon it as a very sublime object. People who have not seen it in its native climate and soil, and who judge of it from the wretched abortions which are swaddled and suffocated in

English plantations, amongst deep, heavy, and eternally wet clays, may well call it a wretched tree; but when its foot is among its own Highland heather, and when it stands freely on its native knoll of dry gravel, or thinly covered rock, over which its roots wander afar in the wildest reticulation, whilst its tall, furrowed, and often gracefully sweeping red and gray trunk, of enormous circumference, rears aloft its high umbrageous canopy, then would the greatest sceptic on this point be compelled to prostrate his mind before it with a veneration which perhaps was never before excited in him by any other tree. The Scottish fir pastures entirely on the surface soil, and never sends its roots downwards. All it wants, therefore, is dryness below. It thrives by the sparkling rill, the mountain torrent, or the wide and rapid river; but though Nature often sows it in the bog, it is there stinted in its growth, and soon sickens and dies.

Though we call the Highlands of Scotland the native country of this tree, we do so only so far as Great Britain is concerned, for there is, perhaps, no tree which is more extensively diffused over the world. That part of Europe which lies above the fifty-fifth degree of latitude is covered with immense pine forests, which are in a great measure composed of this species. In the centre of Europe, it is to be found on the Pyrenees, the Tyrolian, Swiss, and Vosgean mountains, and in North America it abounds. With the exception of the cedar and the larch, the Scottish fir produces better timber than any of the pine family. That which comes from Norway and the Baltic, and from the sides of the river Memel, in Poland, called Red Deal, or Memel Fir, is very durable; but not more so than the timber of our Highland trees. Pine timber is best in the colder situations. In the warmer regions, it contains a great deal of white, or sapwood. At what time the sapwood is transformed into durable or red wood has not yet been determined by vegetable physiologists. Though most writers believe that the ligneous matter is deposited in the second year, we are disposed to doubt the fact. More than a dozen layers of sapwood may be counted on some trees; and, what is a very interesting observation, where trees have been much exposed to the midday sun, the whole southern half of the tree is sometimes found to be little better than sapwood, whilst the northern half may contain only a layer or two at the circumference.

There can be no doubt that the whole hilly regions of

Great Britain and Ireland were at one time covered with forests, which, in a great measure, consisted of pine. About a century and a half ago, that elevated part of the north of Ireland which extends through the counties of Donegal and Tyron, was covered with one vast pine forest, of which hardly a vestige now remains; and, indeed, short as the period is since its disappearance, it is not now very well understood how it was destroyed, or what became of it. Many fragments of the Scottish pine forests still remain; but even these have been very unmercifully slaughtered, in consequence of the high price to which Baltic timber arose during the late wars. There are still the remains of the Rannoch forest, on the confines of the great counties of Perth, Inverness, and Argyle. The roots that exist, and the occasional single trees and groups which may still be seen here and there, in situations not easily accessible, shew that this forest stretched far and wide across the country, meeting with those which now remain on the Dee, the Spey, the Findhorn, the Ness, the Beauly, as well as with those connected with the Glen-mor-na-albin, or great Caledonian Glen, and with the Glengarry, Lochiel, Glen Nevis, and more western sylvan districts. Of these remnants none were more extensive, or more esteemed for their timber, than the forests of the Spey and the Dee. The Abernethy forests still continue to furnish a great quantity of very fine timber. At one time the demand for it was so trifling, that the Laird of Grant got only one shilling and eightpence for what one man could cut and manufacture in a year. In 1730, a branch of the York Building Company purchased £7000 worth of timber; and, by their improved mode of working it up, by saw-mills, &c. and their new methods of transporting it in floats to the sea, they introduced the rapid manufacture and removal of it which afterwards took place throughout the whole of the sylvan districts. About the year 1786, the Duke of Gordon sold his Glenmore forest to an English company for £10,000. This was supposed to be the finest fir wood in Scotland. Numerous trading vessels, some of them above five hundred tons, were built from the timber of this forest; and one frigate, which was called the Glenmore. Many of the trees felled measured eighteen and twenty feet in girth; and there is still preserved, at Gordon Castle, a plank nearly six feet in breadth, which was presented to the Duke by the Company. But the Rothiemurchus forest was the most extensive of any in that part of the country. It contained above sixteen square miles. Alas! we must now, indeed, say that it *was*, for the high price of timber hastened its destruction. It went on for many years, however, to make large returns to the proprietor,—the profits being sometimes above £20,000 in one year. The forests of Glenmore and Rothiemurchus, though belonging to different estates, were so united as to form in reality one continuous forest, and they are now equally denuded of all their finest timber. We remember this a region of such wildness, where its calm silent lakes were for ever reflecting, from their dark bosoms, the endless forests of pine, which rose distance after distance over the broken sides of their minor hills and more lofty mountains, and where the scenes we wandered through were such as the florid imagination of a poet might fancy, but could not describe. Alas! the numerous lakes, and the hills, and the mountains are yet there, but the forests shall no more bewilder both the steps and the imagination of the stranger, till time shall give the same aged forms to those younglings which are every where springing up in the room of their ancestors. The Glenmore forest is fast replenishing itself. Nothing could be more savagely picturesque than that solitary scene, when we visited it some years ago. At that time many gigantic skeletons of trees, above twenty feet in circumference, but which had been so far decayed at the time the forest was felled as to be unfit for timber, had been left standing, most of them in prominent situations, their bark in a great measure gone,—many of them without leaves, and catching a pale, unearthly looking light upon their gray trunks and bare arms, which were stretched forth towards the sky like those of wizzards, as if in the act of conjuring up the storm which was gathering in the bosom of the mountains, and which was about to burst forth at their call.

The Braemar and Invercauld forests on the Dee, are as yet the most entire. They are very extensive, and some very magnificent pines are to be found among them. But the destructive axe has been let loose on that of Mar, and we fear that nothing but a reduction in the price of timber will save it from the ruin which has befallen those we have mentioned.

It is curious to observe, in the Rothiemurchus forest, and the others we have mentioned, how the work of renovation goes on. The young seedlings come up as thick as they do in the nurseryman's seed bed, and in the same *relative* degree of thickness do they continue to grow, till they are old enough to be cut down. The competition that takes place between the adjacent individual plants, creates a rivalry that increases their upward growth, whilst the exclusion of the air prevents the formation of lateral branches, or destroys them soon after they are formed. Thus, Nature produces by far the most valuable timber, for it is tall, straight, of uniform diameter throughout its whole length, and free from knots, — all which qualities combine to render it fit for spars, which fetch double or triple the sum per foot that the other trees do. The large and spreading trees are on the outskirts of the masses, and straggled here and there in groupes and single trees, and these, of course, are the trees which answer to the descriptions we gave at the commencement of this note. It should be carefully remembered by planters, that sundry wretched and worthless varieties of the Scotch fir have crept into use, which in some measure accounts for the miserable appearance of the low country planted tree. The greatest care should be taken to plant nothing but those trees raised from the seed of the true *Pinus sylvestris* of the mountains.

The Spruce Fir is generally esteemed a more beautiful and elegant tree than the Scotch fir; and the reason, I suppose, is, because it often feathers to the ground, and grows in a more exact and regular shape. But this is a principal objection to it. It often wants both form and variety. We admire its floating foliage, in which it sometimes exceeds all other trees; but it is rather disagreeable to see a repetition of these feathery strata, beautiful as they are, reared, tier above tier, in regular order, from the bottom of a tree to the top. Its perpendicular stem also, which has seldom any lineal variety, makes the appearance of the tree still more formal.

It is not always, however, that the spruce fir grows with so much regularity. Sometimes a lateral branch, here and there, taking the lead beyond the rest, breaks somewhat through the order commonly observed, and forms a few chasms, which have a good effect. When this is the case, the spruce fir ranks among picturesque trees. Sometimes it has as good an effect, and in many circumstances a better, when the contrast appears still stronger — when the tree is shattered by some accident, has lost many of its branches, and is scathed and ragged.

A feathery branch here and there, among broken stumps, has often an admirable effect; but it must arise from some particular situation. In all circumstances, however, the spruce fir appears best either as a single tree or unmixed with any of its fellows: for neither it, nor any of the spear headed race, will ever form a beautiful clump without the assistance of other trees.

The *Pinus abies*, the Spruce, called by Michaux the *Abies picea*, or Norway Spruce, is indigenous to the northern climates of Europe and Asia; and in going towards the south it is found to climb into higher elevations, for in France, Italy, and Spain, it abounds only in the mountains, where it grows in deep valleys, and in declivities exposed to the north. Luxuriantly as the tree grows with us in Britain, we must crave for it the same justice we have demanded for the Scotch fir, and deprecate any rash judgment being formed, either on its external appearance or on its timber, from any other than the specimens exhibited in its native forests, where individuals of one hundred and fifty feet high, and five feet in diameter, are to be found. We have already said elsewhere, that it is the great tree of the Alps; and so far as our opinion of its effect in landscape may go, we can only say, that, with us, it is so mentally associated with the grandeur of Swiss scenery, that the sight of it never fails to touch chords in our bosom which awaken the most pleasing recollections. What can be more truly sublime than to behold, opposed to the intensely blue ether, the glazed white summits of Mont Blanc, or the Jungfrau, rising over the interminable forests of spruce firs which clothe the bases of the mountains, whilst some such gigantic specimens as those we have been noticing rise in groups among the rocks before us, many of them shivered, broken, and maimed by tempests, their dark forms opposed to all the brilliant prismatic hues of some immense gorgeous glacier, which nourishes in its vast bosom a mighty river that is doomed to fertilize and to enrich whole kingdoms. As to the value of the timber, we may refer to *The Profitable Planter* for a character even of that which is grown in Great Britain. But nothing can be finer than the spruce timber of the Alps, which is so tough, that the natives are actually in the habit of kindling fires about the trees so as to burn them down, to save their own trouble and the edges of their axes. It is the inaccessible nature of the greater part of the Alpine forests which prevents their being thinned by commerce.

The rugged ravines and sides of Mount Pilatus, however, which had for ages, we may say from the creation of the world, bidden defiance to the assaults of man, were at last attacked by the genius and enterprise of M. Rupp, an individual who constructed an inclined plane of timber from the mountain to the Lake of Lucerne, a length of forty-four thousand English feet. This extraordinary work was completed in 1812. It was made in the form of a trough, six feet broad, and from three to six feet deep, and twenty-five thousand trees were employed in its construction. It was carried, in one undeviating line, over rocks, or along their sides, or under ground, or over deep gorges, where it was supported by scaffoldings. It was called the Slide of Alpnach. Small rills of water were let into it to keep it continually moist, so as to add to its lubricity, and to prevent the chance of inflammation from the friction. When once lanched into this, the largest trees, some of them above a hundred feet long, ran through the space of eight miles and one-third in six minutes; and we remember that the late Professor Playfair, who visited it, and who described it to us, declared, that he found it quite impossible to give two successive strokes of his stick to any, even the largest tree, as it passed him. The logs entered the lake with so much force, that many of them seemed to penetrate its waters to the very bottom. Much of the timber of Mount Pilatus was thus brought to market; but the expense attending the process rendered it impossible for the speculator to undersell the Baltic merchant, after the arrival of peace had opened the market for his timber, and so the Slide of Alpnach fell into ruin.

The growth of the Norway spruce trees in the extensive plantation of the late Duke of Athol, is strong and rapid, particularly in moist spots, and the timber from some of the older trees at Blair, which has been used in spars and top masts, has been found equal in quality to that imported from Norway for the same purposes.

The Silver Fir has very little to boast in point of picturesque beauty. It has all the regularity of the spruce, but without its floating foliage. There is a sort of harsh, stiff, unbending formality in the stem, the branches, and in the whole economy of the tree, which makes it disagreeable. We rarely see it, even in the happiest state, assume a picturesque shape. Assisted it may be in its form, when broken and shattered; but it will rarely get rid of its formality. In old age it stands the best chance of attaining beauty. We sometimes see it, under that circumstance, a noble shattered tree, finely adorned with ivy, and shooting out a few horizontal branches, on which its meagre foliage and tufted moss appear to advantage. I may add, that the silver fir is perhaps the hardiest of its tribe. It will outface the south-west wind, it will bear without shrinking even the sea air; so that one advantage at least attends a plantation of silver firs,—you may have it where you can have no other, and a plantation of silver firs may be better than no plantation at all.

The Silver Fir, *Pinus picea*, is a native of some parts of the Lower Alps, of the Jura, of the Pyrenees, and of Germany. It is a noble tree in its native country, and the masts and spars of the French navy are, in a great measure, constructed of it. It has grown to be a very fine tree in Great Britain; and although, when inserted in a soil which is unfit for it, the tree becomes poor, both in appearance and in timber; yet, in favourable situations, it is both beautiful and valuable. We have seen very fine planks cut out of native logs of silver fir. As for living trees, we have met with very fine specimens of the silver fir, especially in Scotland, but the largest we remember to have remarked were two at the Duke of Argyle's seat of Roseneath, which we shall afterwards more particularly describe. As to the picturesque effect of this tree, we have seen many of them throw out branches from near the very root, that twined and swept away from them in so bold a manner, as to give them, in a very great degree, that character which is most capable of engaging the interest of the artist. Some trees of this description are to be seen at Meadowbank, in the county of Edinburgh, where the species has been pretty extensively planted, and with great success. The *Chermes Pini* is the great enemy of this tree. In many parts of Scotland this little insect has completely exterminated it. This has been very nearly the case at Relugas, in Morayshire, and some very fine ones, of very great altitude, and of great girth — eleven or twelve feet, we think — have been killed by it at Ballindalloch, in the same county. At Cullen House, in Banffshire, also, many have been destroyed in the same manner.

We have succeeded in saving some favourite trees, by the troublesome process of rubbing the insects to death in the spring season, with a coarse canvass cloth. But the labour of making men scrub, not only the stem, but every individual branch, in this manner, is so great, that it may easily be imagined this is a remedy which can only be applied to a very few cases.

I know of no other species of fir in England that is worth mentioning. The Hemlock Spruce is a beautiful loose plant, but it never, I believe, attains any size; and the Newfoundland, or Black Spruce, is another dwarfish tree. In that character, however, it is often beautiful, and its small red cones are an ornament to it. In the vast pine forests of North America, and in those which hang beetling over the cliffs of the Baltic, the picturesque eye might probably see many a grand production of the fir kind which is hitherto little known; or, if known, would appear there in so improved a character, as to seem wholly new. In the northern parts of Asia, also, and in the southern parts of Africa, I doubt not but the fir may be found in great variety and perfection. In Philip's *Voyage to Botany Bay*, we are told of pines in Norfolk Island, one hundred and eighty feet high, as I recollect; but I have not the book by me.* Strabo indeed tells us, that the fir is wholly a European plant, that it is never to be met with in any parts of Asia, and that it may even be considered, in all those places where Europe and Asia border on each other, as a distinguishing mark of European ground. On the Asiatic side of the Tanais, he tells us, it is never found; though on the European side it is so common that the Scythians, who inhabit those parts, use it always in making arrows. He treats Eratosthenes with some contempt, for asserting, that when Alexander was in India he used fir in constructing his navy.† Strabo's accuracy is generally much respected; but in this instance his observations seem to have been confined. There is little doubt, I think, that the fir abounded in many parts of Asia: it was probably as much a native of mount Lebanon as the cedar itself.*

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* In the Addenda to the former edition of this work, Mr Gilpin says, "Since this volume was printed, I have had a more exact account of the firs found on Norfolk Island. They bear cones; but from the sample brought into England, (in the possession of Sir Joseph Banks,) the wood does not appear like deal: it is much heavier, the grain considerably closer, and the colour browner. The girth of the tree from which this sample was cut, was eighteen feet; and the height two hundred and twenty. The first branches were at the elevation of ninety feet; but I could not learn whether this circumstance was a character, or peculiar only to the individual tree in question. Many of the same trees appeared two hundred and thirty feet high, when measured by a quadrant."

† See Lib. ii. p. 510. edit. Caus.

If we could only succeed in rearing the Hemlock Spruce, the *Abies Canadensis*, to the magnitude which it attains in its native country, that of eighty feet in altitude, with a girth of nine feet, or indeed to any thing approaching to such a size, we should say that it would be one of the most magnificent additions which we could possibly make to our sylva. Its tendrils are beautifully pendulous, and an evergreen of this character is certainly very desirable. In dry, stony soils, this tree has a very whimsical peculiarity of ceasing to grow as a tree after it has reached the height of twenty-five or thirty inches. This circumstance may have occasioned the error of some authors, who notice it as nothing more than a shrub. In this state it might be employed to form hedges and to decorate gardens, in place of the yew, to which it is preferable for its superior rapidity of growth, and the sprightlier tint of its foliage, whilst it suffers the shears with equal impunity. The wood is of little value, but its bark is used for tanning, and though inferior to that of the oak, the two kinds united are better than either of them alone. It imparts a deep red colour to the leather. The Indians use it in dying their light baskets made of red maple. The hemlock spruce is natural to the coldest regions of the New World. It fills the forests in the neighbourhood of Quebec, and in Nova Scotia; and in Vermont, and New Hampshire, it forms three quarters of the evergreen woods. It yields seed in many gardens in France, England, and Germany; and as it is supposed to take about two centuries to come to its full size, we have no reason to apprehend that the tree may not grow to perfection here in due time. As an over dry soil seems to make a dwarf of it, so too moist a soil is likely to kill it. In 1829, we planted about five hundred hemlock spruces in various situations at Relugas, in Morayshire, but the long drought of the spring which preceded the great flood of that year, killed every one of them.

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* After all, however, it is probable, that the word λατη, which the Latins translate *abies*, and we translate *fir*, might appear to be somewhat very different from the tree which we call a fir, if we had a Grecian botanist to consult.

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It is also a mistake to say that the Black Spruce is a dwarfish tree. The *Abies nigra* of Michaux, which is the Black, or Double Spruce, or Newfoundland Spruce, grows, in its proper soil and climate, to the height of seventy or eighty feet, though it is not more than fifteen or twenty inches in diameter. Its top is pyramidal, owing to the branches shooting out horizontally, and the trunk is quite smooth and perpendicular. It is most abundant in the countries lying within the forty-fourth and fifty-third degrees of latitude, and the fifty-fifth and seventy-fifth degrees of longitude,—that is to say, in Lower Canada, Newfoundland, New Brunswick, Nova Scotia, &c. where it constitutes a third part of the forests. Farther south, it is only seen, in cold and humid situations, on the top of the Alleghanies. The finest forests of it are found in valleys among the hills, where the soil is black, and humid, and deep. Though well calculated as to climate, therefore, to flourish in the coldest and most humid countries of the north of Europe, and consequently in the Highlands of Scotland, we suspect that the soil required for it could not always be found. But the timber is of little value. The shoots are boiled for making spruce beer.

We shall here run over those species of pines which Michaux enumerates: And first, the *Pinus rubra*, or Red Pine, the *Pin rouge* of the French inhabitants of Canada. In the northern parts of the United States, it is called the Norway Pine, though differing entirely from the tree properly so called, which is a species of spruce. Its native climate in America is chiefly between the forty-eighth and forty-first degrees thirty minutes of latitude; and in dry sandy soils it rises to the height of eighty feet, its diameter being about two feet, and it preserves a great uniformity of size for two-thirds of the length of the trunk. The bark is of a clear red, and the leaves of a dark green, five or six inches long, united in pairs, and collected in bunches at the extremity of the branches. The timber is compact, very resinous, and extremely strong and durable, and it is employed for decks, masts, &c. The mainmast of the St Lawrence, a fifty gun ship, built by the French at Quebec, was of this tree. It is vigorous in its vegetation, and should succeed in the north of Europe.

Pinus rupestris, the Gray Pine. This species is found farther north than any other American pine. In Nova Scotia it is called Scrub Pine, and in Canada Gray Pine. It is a mere shrub, inhabiting the savage environs of the Great Mississippi lake, and it shews decrepitude at three feet high, and never reaches a greater height than eight or ten feet.

The *Pinus mitis*, or Yellow Pine, is widely diffused over North America. In the Carolinas and Georgia it is known by the name of Spruce Pine, and Short-leaved Pine. It is not found farther north than Connecticut and Massachusets. It is a regularly formed tree, from the disposition of its limbs, which are less divergent the higher they are placed on the stock, so as to form a pyramidal but not spacious head. It is therefore too formal to be very interesting as an object of Nature. As timber, it grows to sixty feet high, of an uniform diameter of fifteen or eighteen inches for two-thirds of its height. The heart-wood is fine grained and moderately resinous, and it is extremely durable when used for the construction of houses, decks, masts, yards, beams, and cabins of vessels. It is the Yellow Pine, or the New York Pine, of commerce.

The *Pinus inops*, or New Jersey Pine, abounds in the state from which it is called. It never grows higher than thirty or forty feet, and consequently in Pennsylvania it is called the Scrub Pine. It is of no great beauty, and of no use as timber.

The *Pinus pungens*, or the Table Mountain Pine, receives its name from one of the highest points of the Alleghanies, in North Carolina, which is exclusively covered with the tree, it being the only forest tree of America which is restricted to such narrow limits. It is forty or fifty feet high. It has no valuable properties to recommend it to notice in Europe.

The *Pinus Australis*, or the Long-leaved Pine. It is sometimes called the Yellow Pine, Pitch Pine, and Broom Pine. In the Northern States it is called Southern Pine, and Broom Pine; and in England and the West Indies, it is called the Georgia Pitch Pine. It is the longest leaved species of any other eastward of the Mississippi. The epithet *Palustris*, hitherto applied to it by botanists, suggests an erroneous idea of the situations in which it grows. Its most northern habitat is near Norfolk in Virginia, and it is found in all the tracts of dry sandy soil for a stretch of more than six hundred miles from north to south. Its mean stature is sixty or seventy feet, with an uniform diameter of fifteen or eighteen inches for two-thirds of its height. Some stocks, favoured by local circumstances, attain much larger dimensions. The bark is furrowed, and the epidermis detaches itself in thin transparent sheets. The leaves are about a foot long, of a beautiful brilliant green, three in the same sheath, and collected in bunches at the extremity of the branches. The cones are seven or eight inches long and four inches thick, and are armed with small retorted spines. The kernel is of an agreeable taste, and is contained in a thin white shell, surmounted by a membrane. The timber has very little sapwood, is fine grained, so as to be capable of bright polish, and is compact and durable. It is therefore to be preferred to all other pines, and is employed in the construction of houses, and vessels, and put to a great variety of uses. In Britain, the timber is called the Georgia Pitch Pine, and is sold thirty per cent higher than any other Pine imported from the United States. This tree, also, supplies all the tar and pitch used in the docks of America, besides turpentine, and rosin in great quantities. As Michaux recommends this tree to be introduced upon the wastes near Bordeaux, we fear that the climate of Britain can hardly be considered as very congenial to it.

Pinus scrotina, the Pond Pine, frequently occurs in the maritime parts of the Southern States. The leaves are above six inches in length. The height of the tree is about thirty-five or forty feet. It is remarkable for the remoteness of its branches. It strikingly resembles the Pitch Pine, and, as its wood is utterly worthless, it should be carefully distinguished from it.

Pinus rigida, Pitch Pine, or Black Pine. This tree is found throughout the United States. In the large swamps it attains the height of eighty feet. It even supports the presence of salt water, as it stands in situations overflowed by spring tides. It is chiefly when in dry situations that it yields a great quantity of pitch. It is inferior to Yellow Pine, and much more knotty, but it is nevertheless used both in the construction of houses and of ships.

The *Pinus tæda*, or the Loblolly Pine, is a native of Virginia and North Carolina. It grows in dry and sandy soil, where it reaches the height of eighty feet. The leaves are six inches long, and of a light green. The cones are four inches long, and armed with strong spines. The timber has a great proportion of sapwood, and is altogether of inferior value to that of the long leaved pine.

Abies alba, (*Pinus alba*,) the White or Single Spruce, called in Canada *Epinette Blanche*. This tree is a native of the country lying between latitude forty-eight and forty-nine degrees. It is much less common than the black spruce, from which it is easily distinguished; for though the leaves of both encompass the branches, they are marked by several characteristic differences,—those of the white spruce being less numerous, longer, more pointed, at a more open angle with the branches, and of a pale bluish green. The cones, also, are of a lengthened oval form. The white spruce rarely exceeds fifty feet in height; it is pyramidal in its top like the black spruce, but less branching and tufted. The bark is lighter coloured, and the wood is inferior. The fibres of the roots, after maceration in water, are used for stitching together the bark canoes. The branches are not boiled to make beer, because, when bruised, they diffuse an unpleasant odour, which they communicate to the liquid. As an ornamental tree it is rather elegant, and its lighter green contrasts happily with the darker foliage of the other spruces.

The *Abies* (*pinus*) *balsamifera*, or Balm of Gilead, or Fir Balsam, or American Silver Fir, is a native of the coldest regions of North America. Its height rarely exceeds forty feet. The leaves are narrow, rigid, and flat, and of a bright green above, and of a silvery white beneath. The cones are cylindrical, and four or five inches long, an inch in diameter, and always directed upwards, as are also those of the silver fir of Europe, which character distinguishes them from the family of the *Epicias*, whose cones are turned downwards. In both the American and European Silver Firs, the rosin is deposited in vesicles on the trunk and limbs of the tree, and is collected by bursting their tumours, and receiving their contents in a bottle. Only a few bottles are annually obtained in Canada, Maine, and the adjacent countries. It is sold in England and the United States, under the name of Balm of Gilead, though the true Balm of Gilead is produced by an Asiatic vegetable, the *Amyris Gileadensis*. The fresh turpentine is a greenish transparent fluid, of an acrid penetrating taste. When given inconsiderately, it produces heat in the bladder, and inflames wounds; but it is recommended in certain stages of pulmonary consumption. This tree has long been cultivated in Great Britain; but though a pretty dressed looking tree in the shrubbery, or home pleasure ground, it should be but sparingly employed. Its wood is much inferior to that of the European silver fir.

In addition to these species, we may mention the Corsican Pine, which is said to be a very valuable, as well as a very quick growing tree. The latter quality we have had an opportunity of proving from our own observation. It resembles the *Pinus sylvestris*, but the shoots and spines are much larger. The Corsican Larch also is a beautiful variety, somewhat intermediate between the larch of the Alps, and the cedar of Lebanon, and the wood is beautifully veined. The pine of the sandy plains of Bordeaux is only calculated for the very peculiar district in which it grows as a native.

We have yet one most important member of this genus to notice. This is an American tree, and by far the most gigantic species of the family of pines. We mean the *Pinus Lambertiana*, so called from Lambert, the author of a splendid work on this genus. The *Pinus Lambertiana* is dispersed all over northern California, not in dense forests like the other pines, but in scattered groups and single trees. Mr Douglas was enabled to measure one of these magnificent trees, which had been blown down. Its length was two hundred and fifteen feet; and its girth, at three feet from the root, was fifty-seven feet nine inches; and at one hundred and thirty-four feet from the root, it measured seventeen feet five inches in circumference. This is probably the largest mass of timber that was ever measured by any human being, though some of the growing specimens were evidently of greater elevation, and we have heard it asserted by some individuals who have seen them, that there are trees which cannot be very much short of three hundred feet high. The trunk of the *Pinus Lambertiana* is straight, and clear of branches for about two-thirds of the height; the bark is uncommonly smooth, and the whole tree has a most graceful appearance. The cones resemble those of the Weymouth pine, but they are at least sixteen inches in length. The seeds are eaten roasted or pounded into cakes. The tree bears a considerable resemblance to the spruces, and its turpentine is, like theirs, of a pure amber colour, and the timber soft, white, and light. There is one very singular property in this tree, that when the timber is partly burned, the turpentine loses its peculiar flavour, and acquires a sweetish taste, so as to be used by the natives as a substitute for sugar. We had the good fortune to receive a few seeds of this magnificent vegetable production from Mr Haldane, a gentleman who spent many years in the country where it grows. These are divided between the Edinburgh Royal Botanic Garden, and the Experimental Garden of the Horticultural Society of Edinburgh, and we are happy to understand that some of them are vegetating.

After the pine and fir tribes, the Yew deserves our notice. The yew is a pure native of Britain, and was formerly, what the oak is now, the basis of our strength. Of it the old English yeoman made his long bow, which, he vaunted, nobody but an Englishman could bend. In shooting he did not, as in other nations, keep his left hand steady, and draw his bow with his right: but keeping his right at rest upon the nerve, he pressed the whole weight of his body into the horns of his bow. Hence probably arose the English phrase of *bending* a bow, and the French of *drawing* one.

Nor is the yew celebrated only for its toughness and elasticity, but also for its durable nature. Where your paling is most exposed either to winds or springs, strengthen it with a post of old yew. That hardy veteran fears neither storms above nor damps below. It is a common saying amongst the inhabitants of New Forest, that a post of yew will outlast a post of iron.

Thus much for the utility and dignity of the yew. As to its picturesque perfections, I profess myself (contrary, I suppose, to general opinion) a great admirer of its form and foliage. The yew is, of all other trees, the most tonsile. Hence all the indignities it suffers. We every where see it cut and metamorphosed into such a variety of deformities, that we are hardly brought to conceive it has a natural shape, or the power, which other trees have, of hanging carelessly and negligently. Yet it has this power in a very eminent degree; and in a state of Nature, except in exposed situations, is perhaps one of the most beautiful evergreens we have. Indeed, I know not whether, all things considered, it is not superior to the cedar of Lebanon itself, — I mean to such meagre representations of that noble plant as we have in England. The same soil which cramps the cedar is congenial to the yew.

It is but seldom, however, that we see the yew in perfection. In New Forest it formerly abounded, but it is now much scarcer. It does not rank among timber trees; and being thus in a degree unprivileged, and unprotected by forest laws, it has often been made booty of by those who durst not lay violent hands on the oak or the ash. But still in many parts of the forest some noble specimens of this tree are left. One I have often visited, which is a tree of peculiar beauty. It immediately divides into several massy limbs, each of which, hanging in grand loose foliage, spreads over a large compass of ground, and yet the whole tree forms a close, compact body; that is, its boughs are not so separated as to break into distinct parts. It cannot boast the size of the yew tree at Fotheringal, near Taymouth, in Scotland, which measures fifty-six feet and an half in circumference, nor indeed the size of many others on record; but it has sufficient size for all the purposes of landscape, and in point of picturesque beauty it probably equals any of them. It stands not far from the banks of Lymington river, on the left bank as you look towards the sea, between Roydon farm, and Boldre church. It occupies a small knoll, surrounded with other trees, some of which are yews, but of inferior beauty. A little stream washes the base of the knoll, and, winding round, forms it into a peninsula. If any one should have curiosity to visit it from this description and by the help of these landmarks, I doubt not but he may find it, at any time within the space of these two or three centuries, in great perfection, if it suffer no external injury. If such trees were common, they would recover the character of the yew tree among the admirers of picturesque beauty.

But though we should be able to establish its beauty with respect to form and foliage, there remains one point still, which we should find it hard to combat. Its colour unfortunately gives offence. Its dingy, funereal hue, people say, makes it fit only for a churchyard.

This objection, I hope, I have already answered, in defending the colour of the Scotch fir.* An attachment to colour, as such, seems to me an indication of false taste. Hence arise the numerous absurdities of gaudy decoration. In the same manner, a dislike to any particular colour shews a squeamishness, which should as little be encouraged. Indeed, when you have only one colour to deal with, as in painting the wainscot of your room, the eye properly enough gives a preference to some soft pleasant tint, in opposition to a glaring bold one; but when colours act in concert, (as is the case in all scenery,) red, blue, yellow, light green, or dingy green, are all alike. The virtue of each consists solely in its agreement with its neighbours.

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* See page 172.

I have only to add, in commendation of this tree, that its veins exceed in beauty those of most other trees. Tables made of yew, when the grain is fine, are much superior to mahogany; and its root vies in beauty with the ancient citron.

The Yew, *Taxus*, was certainly a native tree in Scotland as well as in England. It springs up naturally in wild woods, the seed being carried by birds. The Yew Tree Island in Loch Lomond furnished three hundred yews for the axe at one cutting, some fifteen or twenty years ago; and there are still a number of fine specimens of this tree on it. A very large yew grows, at this day, high among the hills, and far from cultivation or from human dwellings, in the midst of the wild country between Loch Ness and the sources of the river Findhorn. Whilst the bow was the great weapon of our ancestors, the yew tree was preserved with the utmost care. A yew tree was valued, in the ancient Welsh laws, at a pound, provided it had been consecrated, and at fifteen pence when not consecrated. But when the bow gave way to fire arms, the tree of which it was made must have been in a great measure neglected. "Since the use of bows is laid aside amongst us," says old Evelyn, "the propagation of the eugh tree is likewise quite forgotten; but the neglect of it is to be deplored; seeing that, (besides the rarity of it in Italy and France, where but little of it grows,) the barrenest ground and coldest of our mountains (for

—— aquilonem et frigora taxi)

might be profitably replenished with them; I say profitably, for, besides the use of the wood for bows,

—— Ilyreos taxi torquentur in arcus,

the artists in box most gladly employ it; and for the cogs of mills, posts to be set in moist grounds, and everlasting axle trees, there is none to be compared with it, likewise for the bodies of lutes, theorbas, &c. yea, and for tankards to drink out of, whatever Pliny report of its shade and fatal fruit in Spain, France, and Arcadia. The taxic quality was certainly in the liquor which these good fellows tippled out of those bottles, not in the nature of the wood; which yet, he affirms, is cured of that venomous quality by driving a brazen wedge into the body of it. This I have never tried, but that of the shade and the fruit I have frequently, without any noxious effects; so I am of opinion, that tree which Sestius calls smilax, and our historian thinks to be our eugh, was some other wood." Cattle and sheep eat yew twigs greedily, and with impunity when they crop them from the tree or bush. But these animals have been frequently poisoned by eating the clippings of a yew hedge which have lain for a little time. This can only be accounted for by the supposition that some chemical change takes place in the arrangement of the juices of the plant, which generates a poison not pre-existing in it. A very interesting, and, to ornamental gardens, a very valuable variety of the yew, is that called the Upright, or Irish Yew. It has been entirely derived, as we have been told, from three or four old trees in one part of Ireland. It performs all the parts which belong to the cypress in landscape composition.

The Ilex, or Evergreen Oak, presents a character very different from that of the yew. The yew is a close bodied, compact tree: the ilex is generally thin and straggling, though we sometimes see it, in soils which it likes, form a thicker foliage. Both the yew and the ilex are beautiful; but in different ways. As an individual, the yew is greatly superior—it is an object to admire: the beauty of the ilex arises chiefly from situation and contrast.

The *Ilex* is a well known evergreen, of which there are many varieties. The bark of all these sorts is entire, and that of the younger plants smooth; but the leaves are of different shapes and composition, according to the nature of the variety. Some of them are nearly like those of both sorts of the cork tree; others are nearly round, and prickly; some are long, smooth, and narrow, with few indentures; whilst others are broad, and much serrated. All these varieties often proceed from acorns gathered off the same tree: nay, the leaves of the same tree are not always alike. The acorns of all these sorts are of different sizes; but the shape of them is nearly the same in all,—that is, like those of some sorts of our common oak, but smaller. The most striking variety of the ilex is the Holly-leaved Oak, which differs from the other sorts only in the circumstance that the leaves are shaped like those of the holly tree. They are of an oval figure, sinuated, prickly, and downy underneath. But many sorts raised from the seeds of the ilex have such leaves. The several varieties of the *Quercus ilex* have succeeded so well in Scotland, as to give great encouragement for the introduction of other evergreen species. The ilex, under favourable circumstances, grows to be a tree of the second class. There are some fine specimens of the ilex at Mount Stewart, in the island of Bute, planted by the late Earl. Some large evergreen oaks occur also at Castle Kennedy, the seat of the Marquis of Ailsa. We also remember to have seen a very fine avenue of ilexes at the Duke of Argyle's, at Roseneath. The first ilexes planted in Scotland were introduced by the patriotic Earl of Haddington, in the plantations on the estate of Tynningham, in Haddingtonshire. All these are wonderful trees for the climate in which they have grown; but we have had the good fortune to benefit by the shade of those enormous ilexes which grow in the neighbourhood of Albano, where, instead of being trees of the second class, they are magnificent specimens of trees of any kind whatsoever.

Under this head may be classed another oak, nearly an evergreen, a late production of singular origin, called the Luccam Oak, from the person who raised it. It was produced from an acorn of the common Turkey oak, from which all the Luccam oaks have been grafted; as I understand, the seed of accidental varieties never produce the same plant. I have heard much of the beauty of this tree, and of the acquisition it will be to winter scenery by the introduction of a new and beautiful evergreen. It may be so. Its growth, I am told, is rapid. But from the few plants I have seen of this stock, and those but young, no judgment can well be formed.

The Holly can hardly be called a tree, though it is a large shrub. It is a plant, however, of singular beauty. Mr Evelin, in his *Sylva*, cries out with rapture,—" Is there under heaven a more glorious and refreshing object of the kind, than an impenetrable hedge, of about four hundred feet in length, nine feet high, and five in diameter, which I can shew in my gardens at Say's Court, at any time of the year, glittering with its armed and varnished leaves; the taller standards at orderly distances, blushing with their natural coral — shorn and fashioned into columns and pilasters, architectionally shaped at due distance."

Though we cannot accord with the learned naturalist in the whole of this rapturous encomium on the hedge at Say's Court, yet in part we agree with him; and admire, as much as he does, the holly "glittering with its armed and varnished leaves, and blushing with its natural coral." But we could wish to recommend it, not in a hedge, but in a forest; where, mixed with oak or ash, or other trees of the wood, it contributes to form the most beautiful scenes; blending itself with the trunks and skeletons of the winter, or with the varied greens of summer. But in its combined state we shall have occasion hereafter to mention it. At present we shall only observe, that, as far as an individual bush can be beautiful, the holly is extremely so. It has besides to recommend it, that it is among the hardiest and stoutest plants of English growth. It thrives in all soils, and in all situations. At Dungeness in Kent, I have heard, it flourishes even among the pebbles of the beach.

We are surprised that Mr Gilpin should hesitate about considering the Holly, the *Ilex aquifolium*, as a tree. Although much used for hedges, it rises to the height of thirty feet, or more; and produces a timber of very great value, for inlaying and veneering, and for turners and mathematical instrument makers. Sang tells us that the greatest collection of natural hollies he ever saw or heard of, grew in the fir forest of Black Hall, on the river Dee, about twenty miles above Aberdeen. Many of them were very large, and well stemmed. The greater part of this forest was cut down. The holly timber was sent to London, and sold for five shillings and sixpence a foot. The holly grows in great abundance on the banks of the river Findhorn, and the trees rise to a very great size. So plentiful were they in the forest of Tarnawa, on its left bank, that for many years the castle of Tarnawa was supplied with no other fuel than billets of holly; and yet they are still so numerous, that, in going through the woods now, no one would suppose that any such destruction had been committed. It is a hardy tree, and grows in very high situations. The numerous varieties of the holly, especially the gold and silver blotched varieties, are beautiful, when intermixed in the shrubbery. It is a little curious to remark how much Mr Gilpin has, through oversight, misquoted Evelyn, in the text. The following is the whole passage:—"Above all the natural greens which enrich our home-born store, there is none, certainly, to be compared to the holly; insomuch, that I have often wondered at our curiosity after foreign plants, and expensive difficulties, to the neglect of the culture of this vulgar, but incomparable tree, whether we will propagate it for use and defence, or for sight and ornament. Is there, under heaven, a more glorious and refreshing object of the kind, than an impregnable hedge, of one hundred and sixty feet in length, seven feet high, and five in diameter, which I can shew in my poor gardens, at any time of the year, glittering with its armed and varnished leaves? The taller standards at orderly distances, blushing with their natural coral. It mocks at the rudest assaults of the weather, beasts, or hedge-breaker,—

Et illum nemo impune lacessit." *

The Hawthorn should not entirely be passed over amidst the minuter plants of the forest, though it has little claim to picturesque beauty. In song indeed the shepherd may with propriety

——— tell his tale
Under the hawthorn in the dale:

but when the scenes of Nature are presented to the eye, it is but a poor appendage. Its shape is bad: it does not taper and point like the holly, but is rather a matted, round, heavy bush. Its fragrance indeed is great; but its bloom, which is the source of that fragrance, is spread over it in too much profusion. It becomes a mere white sheet—a bright spot, which is seldom found in harmony with the objects around it. In autumn the hawthorn makes its best appearance. Its glowing berries produce a rich tint, which often adds great beauty to the corner of a wood, or the side of some crowded clump.

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* The original edition, published, at London, in 1664.

We think Mr Gilpin is peculiarly hard on the Hawthorn, the *Mespilus* (*Cratægus*) *oxycantha*. Even in a picturesque point of view, which is the point of view in which he always looks at Nature, the hawthorn is not only an interesting object by itself, but produces a most interesting combination, or contrast, as things may be, when grouped with other trees. We have seen it hanging over rocks, with deep shadows under its foliage, or shooting from their sides, in the most fantastic forms, as if to gaze at its image in the deep pool below. We have seen it contrasting its tender green and its delicate leaves with the brighter and deeper masses of the holly and the alder. We have seen it growing under the shelter, though not under the shade, of some stately oak, embodying the idea of beauty protected by strength. Our eyes have often caught the motion of the busy mill-wheel, over which its blossoms were clustering. We have seen it growing grandly on the green of the village school, the great object of general attraction to the young urchins, who played in idle groups about its roots, and perhaps the only thing remaining to be recognized, when the schoolboy returns as the man. We have seen its aged boughs overshadowing one half of some peaceful woodland cottage, its foliage half concealing the window, whence the sounds of happy content and cheerful mirth came forth. We know that lively season,

> When the milkmaid singeth blythe,
> And the mower whets his scythe,
> And every shepherd tells his tale
> Under the hawthorn in the dale.

And with these, and a thousand such associations as these, we cannot but feel emotions of no ordinary nature when we behold this beautiful tree. We have seen many fine hawthorns; but none more venerable than an enormous old tree, growing near the village of Duddingstone, in the county of Edinburgh. We measured this tree in the year 1818, and found it, at three feet above the root, nine feet in girth; and a little way above the roots, twelve feet round. This surpasses a hawthorn mentioned by Beever, as being near Hethel church, which, at four feet, was nine feet one and a half inch. One of its arms extended above seven yards. The wood of the hawthorn is valuable for the carver and the cabinetmaker; but if allowed to remain in the log, it heats, and becomes brittle. It is remarkably durable and hard. We should have conceived it to be of much too hard a nature to root from the truncheon, like the poplar or willow tribes, nor can such an occurrence be common; but we had recently an opportunity of seeing a thorn tree, at Fountainhall, in Haddingtonshire, which the forester, a man of unquestionable veracity, assured us he had, with his own hand, driven down into the earth, with the point of it sharpened, as a stake in a dead hedge, which, to his astonishment, rooted spontaneously, budded, and put forth branches, and became the thriving tree we beheld. The whimsical stake appearance of the stem bore testimony to the fact, as narrated.

It were endless to go through the different species and varieties of the thorn; but we may mention, that the scarlet flowering variety, though its beauty is unaccompanied by that delicious odour which is so gratifying in the common hawthorn, is yet, when covered with its blossoms, one of the most delightful objects that the eye can look upon.

We shall now notice one or two trees, which we, as well as Mr Gilpin, have omitted; but this we shall do as shortly as possible.

The Cypress, *Cupressus sempervirens*, of which Evelyn says, " If we should reason only from our own experience, even the cypress tree was, but within a few years past, reputed so tender and nice a plant, that it was cultivated with the greatest care, and to be found only among the curious; whereas, we see it now in every garden, rising to as goodly a bulk and stature as most which you shall find in Italy itself; for such I remember to have once seen in his Majesty's gardens at Theobald's, before that princely seat was demolished." Nothing can be more beautiful than this architectural tree, when brought into combination with buildings; and no Italian scene is perfect without its tall spiral form, appearing as if it were but a part of the picturesquely disposed edifices which rise from the middle ground against the distant landscape. We are delighted to see this tree multiplying fast among us. Along with the common cypress, we may mention the *Cupressus thyoides*, or White Cedar, and the various individuals of the *Juniperus*.

The *Prunus Lauro-cerasus*, or Common Laurel, and the *Prunus Lusitanica*, or Portugal Laurel, are invaluable for giving effect to our groves, by their sparkling glazed leaves, especially in winter. That they grow with us to trees, is proved by the fact, that at Fountainhall there is one, the stem of which measures five feet in girth; and that, in 1817, we measured one at Inverary, which, at three feet from the ground, was eight feet ten inches round. And then the *Laurus nobilis*, or Evergreen Bay Tree, which, as Hanbury tells us, grows to thirty feet in height, and two feet in diameter, in this country, and which we have seen one hundred feet high in the Isola Bella, in the Lago Maggiore in Italy, is surely not to be despised. It inclines to grow spirally, and has a gay and cheerful green.

The *Magnolia grandiflora*, or Big Laurel of America, although so delicate in Britain as to require some sheltered position in the home grounds, should not be forgotten. We have seen it of very tolerable size, and in great beauty, covered with its large, splendid, and most odoriferous flowers, at East Sheen, and other places; and were it only to have it as a sample, to remind us that in its native country, the United States of America, it grows to the height of ninety feet, with a stem of two or three feet in diameter, it would be worth while to have specimens of it. We forbear to notice the other trees of this genus,—all magnificent, and many of them even more hardy than this we have mentioned.

The *Thuya occidentalis*, or Arbor Vitæ, is another valuable small evergreen tree. In 1780, an arbor vitæ, at Bargoly, in Galloway, measured five feet four inches in girth. The *Orientalis*, or Chinese arbor vitæ, is more delicate than the common.

We shall close our share of this catalogue of trees, with the mention of three more humble individuals. The Hazel, *Corylus avelana*, which, besides making up a prominent part of many a grove in the happiest manner, and tufting and fringing the sides of many a ravine, often presents us with very picturesque stems and ramifications. Then, when we think of the lovely scenes into which the careless steps of our youth have been led, in search of its nuts, when autumn had begun to brown the points of their clusters, we are bound to it by threads of the most delightful associations with those beloved ones who were the companions of such idle but happy days. Then there is the Elder, the *Sambucus nigra*, shooting from the wild fence of the village garden, white with flowers, or purple with berries. The elder—whence, when we were boys, we cut those tubes through which we have stealthily and waggishly blown pease, from behind some concealment, at some grave and reverend senior, whom we dared not for our lives to confront. Even in picturesque effect, the elder is often most happily brought into combination with cottages and taller trees. The elder will grow in a higher country than most trees, and may be used for fences, where no other fence-tree or bush would thrive. It makes an excellent nurse to rear up young trees exposed to the sea blast, and it has been so employed, with the happiest effect, in that part of the grounds at Cullen House recently extended towards the shore of the Moray Firth.

We shall conclude with the *Prunus padus*, or Bird Cherry Padus, a native of the Scottish woods, which is always a graceful, and often a picturesque tree, and frequently grows to a girth greater than a man can embrace. And there is a foreign and introduced variety, the *Prunus Virginiana*, or Virginian Padus, which grows to thirty or forty feet high in our woods; the beautiful bright green, glazed, and enduring leaf of which — for it remains green on the branch for the greater part of the winter — renders it a most desirable tree to plant. A tree of this kind was cut down at Hopetoun House, in 1788, which measured three feet ten inches in girth, but we have seen them larger.

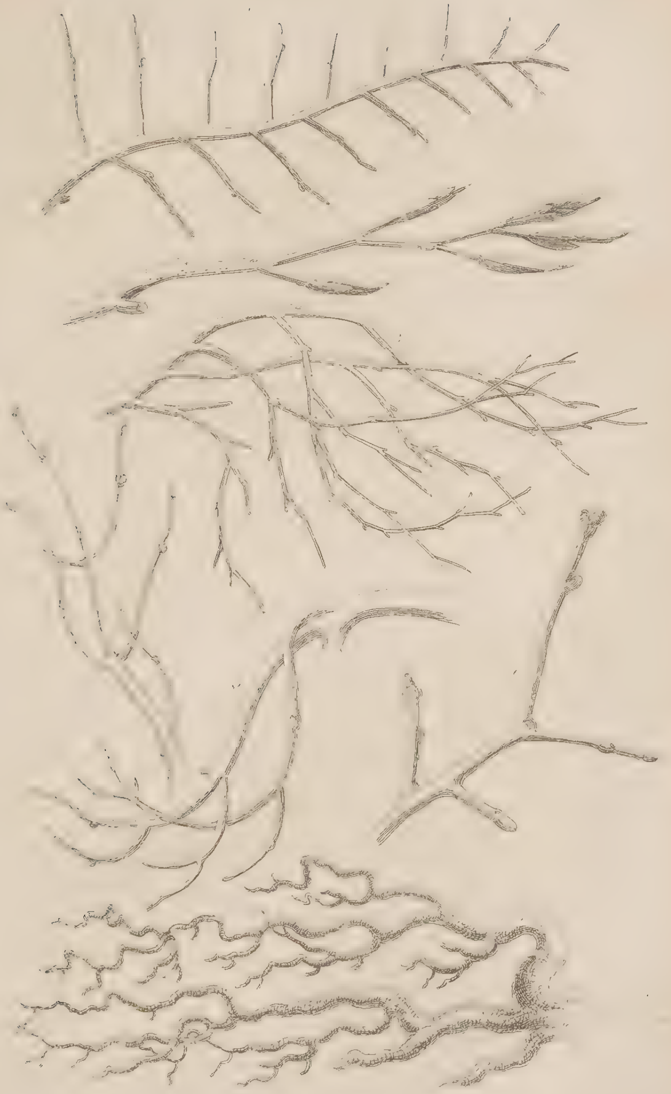
SECTION V.

We have thus endeavoured to mark the principal characteristics of picturesque beauty, in the most common trees we have in England. But to have a more accurate idea of their nice peculiarities and distinctions, we should examine their smaller parts with a little more precision,—their ramification in winter, as well as the mass of foliage which they exhibit in summer.

Their ramification, in part, we have already considered; but it has only been that of the larger boughs which support the foliage, and such as we commonly see under the masses of it when in full leaf. Winter discovers the nicer parts of the ramification, — the little tender spray, on which the hanging of the foliage and the peculiar character of the tree so much depend.

The study is certainly useful. It is true it has none of the larger parts of painting for its object, composition, or the massing of light and shade; but we consider the spray as a kind of sylvan anatomy, which is very necessary for those to understand, who wish either to be acquainted with the particular character of each tree, or to represent its general effect with any degree of exactness.

Nor is it an unpleasing study. There is much variety in the ramification of each species, and much also in that of each individual. We see every where so many elegant lines, so much opposition and rich intersection



Spray of the Elm
2 Spray of the Beech
3 Ramification of the Beech
4 Spray of the Ash
5 Ramification of the Ash
6 Spray of the Oak
7 Ramification of the Oak

among them, that there are few more beautiful objects in Nature than the ramification of a tree. For myself, I am in doubt whether an old, rough, interwoven oak, merely as a single object, has not as much beauty in winter as in summer. In summer it has unquestionably more effect; but in point of simple beauty and amusement, I think I should almost prefer it in winter.

If a man were disposed to moralize, the ramification of a thriving tree affords a good theme. Nothing gives a happier idea of busy life. Industry and activity pervade every part. Wherever an opening, how minute soever, appears, there some little knot of busy adventurers push in, and form a settlement, so that the whole is every where full and complete. There too, as is common in all communities, are many little elbowings, justlings, thwartings, and oppositions, in which some gain and others lose.*

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* As a continuation of this moralizing strain, the following short allegory ventures to appear in a note:

> Ut sylvæ foliis pronos mutantur in annos;
> Prima cadunt; ita ———
> Debemur morti nos, nostraque.

As I sat carelessly at my window, and threw my eyes upon a large acacia, which grew before me, I conceived it might aptly represent a country divided into provinces, towns, and families. The larger branches might hold out the first; the smaller branches connected with them, the second; and those combinations of collateral leaves, which specify the acacia, might represent families, composed of individuals. It was now late in the year, and the autumnal tint had taken possession of great part of the tree.

As I sat looking at it, many of the yellow leaves (which, having been produced earlier, decayed sooner) were continually dropping into the lap of their great mother. Here was an emblem of natural decay, the most obvious appearance of mortality.

As I continued looking, a gentle breeze rustled among the leaves. Many fell which in a natural course might have enjoyed life longer. Here malady was added to decay.

The blast increased, and every branch that presented itself bowed before it. A shower of leaves covered the ground. The cup of vengeance, said I, is poured out upon the people. Pestilence shakes the land. Nature sickens in the gale. They fall by multitudes. Whole families are cut off together.

Among the branches was one entirely withered; the leaves were shrivelled, yet clinging to it. Here was an emblem of famine. The nutriment of life was stopped. Existence was just supported; but every form was emaciated and shrunk.

In the neighbourhood stretched a branch, not only shrivelled and

In examining the spray of trees, I shall confine myself to the oak, the ash, the elm, and the beech. It would be endless to run through the whole forest. Nor is it necessary. The examination of these few principal trees will shew how consequential a part the spray is, in fixing the character of the tree. There is as much difference in the spray as there is in the foliage, or in any other particular. At the same time, if a painter be accurate, in a certain degree, in his delineation of some of the more capital trees, in others his accuracy is of little consequence — nay, an endeavour at precision would be stiff and pedantic.

In the spray of the four species of trees just mentioned, and I doubt not in that of all other trees, Nature seems to observe one simple principle; which is, that the mode of growth in the spray corresponds exactly with that of the larger branches, of which indeed the spray is the origin. Thus, the oak divides his boughs from the stem more horizontally than most other deciduous trees: the spray makes exactly, in miniature, the same appearance; it breaks out in right angles, or in angles that are nearly so, forming its shoots commonly in short lines, the second year's shoot usually taking some direction contrary to

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withered, but having been more exposed to winds, was stripped almost entirely of its leaves. Here and there hung a solitary leaf, just enough to shew that the whole had lately been alive. Ah! said I, here is an emblem of depopulation. Some violent cause hath laid waste the land. Towns and villages, as well as families, are desolated. Scarce ten are left to bemoan a thousand.

How does every thing around us bring its lesson to our minds! Nature is the great book of God; in every page is instruction to those who read. Mortality must claim its due. Death in various shapes hovers round us. Thus far went the heathen moralist. He had learned no other knowledge from these perishing forms of Nature, but that men, like trees, are subject to death:

> ——— Ita
> Debemur morti nos, nostraque.

Better instructed, learn thou a nobler lesson. Learn that that God, who with the blast of winter shrivels the tree, and with the breezes of spring restores it, offers it to thee as an emblem of thy hopes. The same God presides over the natural and moral world. His works are uniform. The truths which Nature teaches, as far as they go, are the truths of revelation also. It is written in both these books, that that Power which revives the tree, will revive thee also, like it, with increasing perfection.

that of the first. Thus the rudiments are laid of that abrupt mode of ramification, for which the oak is so remarkable. When two shoots spring from the same knot, they are commonly of unequal length; and one with large strides generally takes the lead. Very often also three shoots, and sometimes four, spring from the same knot. Hence the spray of this tree becomes thick, close, and interwoven; so that, at a little distance, it has a full, rich appearance, and more of the picturesque roughness, than we observe in the spray of any other tree. The spray of the oak generally springs from the upper, or the lateral parts of the bough; and it is this which gives its branches that horizontal appearance which they generally assume.

The spray of the ash is very different. As the boughs of the ash are less complex, so is its spray. Instead of the thick intermingled bushiness which the spray of the oak exhibits, that of the ash is much more simple, running in a kind of irregular parallels. The main stem holds its course, forming at the same time a beautiful sweep; but the spray does not divide, like that of the oak, from the extremity of the last year's shoot, but springs from the sides of it. Two shoots spring out opposite to each other, and each pair in a contrary direction. Rarely, however, both the shoots of either side come to maturity; one of them is commonly lost, as the tree increases, or at least makes no appearance in comparison with the other, which takes the lead. So that, notwithstanding this natural regularity of growth, so injurious to the beauty of the spruce fir, and some other trees, the ash never contracts the least disgusting formality from it. It may even receive great picturesque beauty, for sometimes the whole branch is lost as far as one of the lateral shoots, and this occasions a kind of rectangular junction, which forms a beautiful contrast with the other spray, and gives an elegant mode of hanging to the tree.

This points out another difference between the spray of the oak and that of the ash. The spray of the oak, we observed, seldom shooots from the under sides of the larger branches; and it is this, together with the strength and firmness of the branches, which keeps them in a horizontal form. But the spray of the ash as often breaks out on the under side of the branch as on the upper; and being of a texture weaker than that of the oak, it generally, as the bough increases, depends below the larger branch, and rising again, forms, in full grown trees especially, very elegant pendent boughs.

The branch of the elm hath neither the strength nor the various abrupt twistings of the oak, nor doth it shoot so much in horizontal directions. Such also is the spray. It has a more regular appearance, not starting off at right angles, but forming its shoots more acutely with the parent branch.

Neither does the spray of the elm shoot, like that of the ash, in regular pairs from the same knot, but in a kind of alternacy. It has generally at first a flat appearance, but as one year's shoot is added to another, it has not strength to support itself; and as the tree grows old, it often becomes pendent also; whereas the toughness and strength of the oak enables it to stretch out its branches horizontally to the very last twig.

The spray of the beech observes the same kind of alternacy as that of the elm, but it shoots in angles still more acute; the distance between each twig is wider, and it forms a kind of zigzag in its course.

We esteem the beech also in some degree a pendent tree, as well as the ash, but there is a wide difference between them. The ash is a light airy tree, and its spray hangs in elegant loose foliage. But the hanging spray of the beech, in old trees especially, is often twisted, and intermingled disagreeably, and has a perplexed matted appearance. The whole tree gives us something of the idea of an entangled head of bushy hair, from which, here and there, hangs a disorderly lock; while the spray of the ash, like hair neither neglected nor finically nice, has nothing squalid in it, and yet hangs in loose and easy curls.

The spray of trees puts on different appearances as the spring advances. When their buds begin to swell, most of them push out a bloom which overspreads them with great richness. But of all others, the ash presents the most singular and beautiful aspect. About the end of March, or the beginning of April, it throws out a knotty bloom, which, opening gradually, not only enriches the spray, but is in itself one of the most beautiful among the minuter appearances of Nature. The seminal stems are of an olive tint, and each of them tipped with a black seed. Often, too, the spray of the ash is enriched by the ragged remnants of the keys and tongues of the last year, which, mixed with the bloom, has a good effect.

The elm, too, throws out a beautiful bloom in form of a spicated ball, about the bigness of a nutmeg, of a dark crimson colour. This bloom sometimes blows in such profusion as to thicken and enrich the spray exceedingly, even to the fullness almost of foliage. It is not, however, often seen in such perfection. In the spring of the year 1776, it was more than commonly profuse. Indeed, the bloom of forest trees in general is rarely annual; it appears in profusion only every second or third year, and even then, seldom all the trees of the same kind bloom at once. Thus, when you look into a grove of oaks, about the beginning of May, you will suppose perhaps that some are much forwarder in leaf than others; whereas, in fact, this appearance chiefly arises from their being in bloom, their little pensile catkins hanging in knots, adorned with tufts of young leaves.

Having thus made a few observations on the forms of trees, their different modes of growth, and other peculiarities, I should add, that I am far from supposing Nature to act always in exact conformity to the appearances which I have here marked. In the general mode of growth which each species observes, no doubt, she is uniform; but in the particular manner in which the stem rises, the branches shoot, the foliage hangs, and indeed, if I may so speak, in the specific character of each individual, many circumstances will make a difference, soils and climates especially. These have the same effect on the form of trees which they have on the form of animals. We not only see distant parts of the earth, but even contiguous countries, exhibit varieties in the same species of animals: the English and Scotch horse are very different creatures; and as climates and soils are still more connected with trees than with animals, we may observe a greater difference produced in them, within a smaller distance. The oak of one country differs in form from the oak of another. In one, it carries commonly an erect stem for many yards from the ground; in another, its branches begin very quickly to divide and straggle. In the former situation, the foliage may be thick and interwoven; in the latter, it may be thin and meagre: but in both situations you may easily distinguish it from the oak, or the beech. The observations, therefore, which we have made on the form of trees, cannot, in many minute circumstances, be supposed to suit the individuals of every country; though I have endeavoured, as well as I could, to adapt them to the species. They were chiefly made on the trees of New Forest in Hampshire, the soil of which, in general, is a hungry gravel, or a cold clay.

We conceive these remarks of Mr Gilpin on the spray of trees, and the study it implies, to be as valuable to the artist in the department of landscape, as lectures on anatomy, and the study of the muscles, must be to the artist whose department is the drawing of animated figures. Mr Gilpin's observations appear to us to be accurate and just.

SECTION VI.

I SHOULD now dismiss the subject of trees as individuals, and hasten to consider them in a combined state, in which they will appear to most advantage; but as many trees, as well as men, have distinguished themselves in the world, it seemed proper to dedicate a few pages to the particular mention of such celebrated characters, before I conclude that part of my treatise which is professedly written to do honour to single trees.

But, first, it cannot be enough lamented by the lovers of landscape that we meet with so few of these noble characters. Trees, indeed, sufficient for all the purposes of distant scenery we often find, but a tree in full perfection, as a grand object to grace a foreground, is rarely seen. Wherever trees can be turned to profit, they are commonly cut down long before they attain picturesque perfection. The beauty of almost every species of tree increases after its prime; and unless it have the good fortune to stand in some place of difficult access, or under the protection of some patron whose mansion it adorns, we rarely see it in that grandeur and dignity which it would acquire by age.

Some of the noblest oaks in England were, at least formerly, found in Sussex. They required sometimes a score of oxen to draw them, and were carried on a sort of wain, which in that deep country is expressively called a *tugg*. Two or three years was not an uncommon space of time for a tree to spend in performing its journey to Chatham. One tugg carried the load but a little way, and left it for another tugg to take up. If the rains set in, it stirred no more that year; and sometimes no part of the next summer was dry enough for the tugg to proceed, so that the timber was generally pretty well seasoned before it arrived at the king's yard. I suppose the same mode of carriage still continues.

In this fallen state alone, it is true, the tree becomes the basis of England's glory. Though we regret its fall, therefore, we must not repine, but address the children of the wood, as the gallant oak, on his removal from the forest, is said to have addressed the scion by his side:

> Where thy great grandsire spread his awful shade,
> A holy druid mystic circle 's made:
> Myself a sapling, when thy grandsire bore
> Intrepid Edward to the Gallic shore.
> Me now my country calls: adieu, my son;
> And as the circling years in order run,
> May'st thou, renown'd, the forest's boast and pride,
> Victorious in some future contest ride.

Nobody that I know has more pathetically lamented the fall of trees than the elegant Vanier. Whoever has a taste for the subject, will be gratified by the following quotation, —

> Neque enim villis accedere major
> Possit honos, densa quam nubilus arbore lucus.
> Sylvarum studiosa, suos cum Gallia quondam
> Vix aleret cives, patria migrare relicta,
> Atque peregrinos alio deferre penates
> Maluit, excisis victum quam quærere sylvis.
> Hæc ubi jam nemorum reverentia tanta, bipennes
> Ut teneat? nostros ubi grandior ulla per agros
> Quercus ad annosam, ferri secura, senectam
> Durat? inaccessis nisi consita montibus, ipso
> Se defensa loco tueatur: si qua supersunt
> A patribus nemora ad seros transmissa nepotes,
> Illa nec æstivo frondent impervia soli,
> Nobile nec cœlo caput abdunt, qualia quondam
> Vulgus adorabat truncis procera verendis.

Sed veteri de stirpe, novo surgentia ramo,
Et quatuor post lustra nigros visura caminos,
Vix lepori hospitium præbent, sylvestribus olim
Quæ timidas latebris damas ursosque tegebant.
Ecquis honos ruris, nemorum si gratia desit;
Obsessusque domi maneas, cum Sirius ardens
Debacchatur agris; viridique sub ilicis umbra
Irriguo possis nec tradere fessa sopori
Membra, nec æstivos ramorum frigore soles
Frangere, nec taciti per amica silentia luci,
Multisonos avium concentus inter, ad aptos
Sponte sua veniens numeros, contexere carmem.[*]

As it is thus a general complaint that noble trees are rarely to be found, we must seek them where we can, and consider them when found, as matters of curiosity, and pay them a due respect.

And yet I should suppose they are not so frequently found in a state of Nature as in more cultivated countries. In the forests of America, and other scenes, where boundless woods have filled the plains from the beginning of time, and where they grow so close, and cover the ground with so impervious a shade, that even a weed can scarce rise beneath them, the single tree is lost. Unless it stand on the outskirts of the wood, it is circumscribed, and has not room to expand its vast limbs as Nature directs. When we wish therefore to find the most sublime sylvan character — the oak, the elm, or the ash in perfection—we must not look for it in close thick woods, but standing single, independent of all connections, as we sometimes find it in our own forests, though oftener in better protected places, shooting its head wildly into the clouds, and spreading its arms towards every wind of heaven:

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[*] Præd. rusticum, Lib. v.

—— No greater beauty can adorn
The hamlet, than a grove of ancient oak.
Ah! how unlike their sires of elder times
The sons of Gallia now! They, in each tree
Dreading some unknown power, dared not to lift
An axe. Though scant of soil, they rather sought
For distant herbage, than molest their groves.
Now all is spoil and violence. Where now
Exists an oak, whose venerable stem
Has seen three centuries? unless some steep,
To human footstep inaccessible,
Defend a favour'd plant. Now, if some sire
Leave to his heir a forest scene, that heir,
With graceless hands, hews down each awful trunk,
Worthy of Druid reverence. There he rears
A paltry copse, destined, each twentieth year,
To blaze inglorious on the hearth. Hence woods,
Which shelter'd once the stag and grisly boar,
Scarce to the timorous hare sure refuge lend.
Farewell each rural virtue, with the love
Of rural scenes! Sage Contemplation wings
Her flight; no more from burning suns she seeks
A cool retreat. No more the poet sings,
Amid re-echoing groves, his moral lay.

> ———— The oak
> Thrives by the rude concussion of the storm.
> He seems indignant, and to feel
> The impression of the blast with proud disdain;
> But deeply earth'd, the unconscious monarch owes
> His firm stability to what he scorns:
> More fix'd below, the more disturb'd above.

If I chose to lengthen my catalogue of celebrated trees, I might produce an innumerable host of such as have been mentioned casually by historians and travellers in all ages,—as the plane tree hanging over the temple of Delphos, which Theophrastus supposes was as ancient as the times of Agamemnon — that also by which Socrates used to swear — the olive tree at Linturnum, planted by Scipio Africanus — the tilia of Basil, under which the German emperors used to dine — the malus medica at the monastery of Fundi, reverenced by Thomas Aquinas —the oak at Bruges, which Francis the First immured— the lime tree in Sweden, which gave name to the family of the celebrated Linnæus — trees which Captain Cook found in the western part of California, measuring sixty feet in circumference, and rising to the height of one hundred and fifty feet without a single knot — solid trees, which have been scooped into canoes, capable of holding thirty or forty men; particularly one on record at Congo, which held two hundred. I might add also Arthur's table, in the town-hall of Winchester, which has been cut out of a tree of immense girth. The Cheltenham oak also might be introduced, which, as near its roots as you can walk, exceeds twenty paces round — the Cawthorpe oak, also, which at the ground exceeded twenty-six yards — the Bently oak in Holt Forest, which at seven feet from the ground, was thirty-four feet in circumference — the Swilter oak, in Needwood Forest, which, I believe, was equal to any of them.* With an innumerable list of this kind I might swell my page: but I reject all such trees as have either been only casually mentioned, or have had their value merely ascertained by a timber merchant's rule. And yet all these have been trees famous in their day: some of them are still alive; and if I were writing a biographical history of trees, I should be glad to insert them, having a reverence for them all. Where one tree attains this noble growth, and makes itself conspicuous, thousands, and ten thousands, reach only the ordinary size of Nature. The few pages, however, at present on my hands, I should wish to allot to such trees only, as have somewhat more of history and anecdote annexed to them.

One of the most celebrated trees on ancient record, was an oriental plane, which grew in Phrygia. Its dimensions are not handed down to us; but from the following circumstances, we may suppose them to have been very ample. When Xerxes set out on his Grecian expedition, his rout led him near this noble tree. Xerxes, it seems, was a great admirer of trees. Amidst all his devastations in an enemy's country, it was his particular order to spare the groves. This wonderful plane therefore struck his fancy. He had seen nothing like it before; and to the astonishment of all his officers, ordered his mighty host to halt three days, during which time he could not be drawn from the Phrygian plane. His pavilion was spread under it, and he enjoyed the luxury of its delicious shade, while the Greeks were taking measures to seize the pass at Thermopylæ. The story may not speak much in favour of the prince; but it is my business only to pay honour to the tree.†

In Arcadia, at the foot of the mountains, bounding the Stymphalian plains, (famous for one of the labours of Hercules,) stood the little town of Caphiæ; and just above it rose a fountain called the Menalaid fountain; by the side of which Pausanias tells us,‡ grew a plane tree of extraordinary size and beauty, called the Menalaid Plane. It was generally believed in the country, he tells us, that Menelaus coming to Caphiæ to raise forces for the Trojan war, planted this tree with his own hands. Pausanias travelled through Greece in the reign of Antoninus Pius, who succeeded to the empire, A. D. 151; so that the age of the tree, when Pausanias saw it, must have been about one thousand three hundred years.

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* Many of these trees are mentioned by Mr Evelin, and the rest are collected from the topographical remarks of travellers and historians.

† This account is taken from Elian.

‡ Paus. Arcad. c. 23.

I shall next exhibit another plane tree of great celebrity, which flourished in Lycia, during the reigns of the Roman Cæsars. From a vast stem it divided into several huge boughs, every one of which had the consequence of a large tree; and at a distance the whole together exhibited the appearance of a grove. Its branches still flourished, while its trunk decayed. This in process of time mouldered away into an immense cave, at least eighty feet in circumference; around the sides of which were placed seats of pumice stone, cushioned softly with moss. This tree was first brought into repute by Licinius Mutianus, governor of Lycia. Licinius was a curious man, and not unversed in natural history. Pliny, from whom we have the account of the tree, has thought proper to quote him frequently, mentioning particularly his remarks on Egyptian paper,* and also on that kind of wood of which the statue of Diana at Ephesus was made.† With the Lycian plane Licinius was exceedingly pleased, and often enjoyed the company of his friends under its shade. It was great luxury, he would say, to dine in its trunk on a sultry summer day, and to hear a heavy shower of rain descending through the several stages of its leaves. As a naturalist, he left it on record, that himself and eighteen other persons, dined commodiously around the benches in the body of it.

Caligula had a tree of the same kind at his villa near Velitræ. But Caligula's tree appears to have been more complex than the Lycian plane. It had not only a hollow cave in its trunk, which was capable of holding

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[*] Lib. xiii. c. 13.

[†] Lib. xvi. c. 40.

fifteen persons at dinner, with a proper suit of the emperor's attendants; but, if I understand Pliny rightly,* it had stories also (probably artificial flooring) in the boughs of the tree. Caligula used to call it his nest.

From the same author we have an account of four holm trees,† still existing in his time, which were of great antiquity. Three of them, he says, stood upon the site of the ancient Tybur, which was a city older than Rome; and these trees were not only older than Tybur, but were trees of consequence in the days of Tiburtus, who founded it. For tradition assures us, says Pliny, they were the very trees on which that hero observed an ominous flight of birds, and was determined by them in the site of his town. As Tiburtus was the son of Amphiareus, who died at Thebes a hundred years before the Trojan war, these trees, at the lowest calculation, must have been fourteen or fifteen hundred years old, in the time of Pliny. Though this is far from being incredible, yet as it rests wholly on tradition, we pay it the less attention. What Pliny says in favour of the fourth tree, however, has more weight. This tree, he tells us, grew in the Vatican, and had its age inscribed in old Tuscan characters upon its trunk; from which inscription it appeared, that before the city of Rome had its existence, this holm was a celebrated tree.

When Tiberius built his naumachia, and had occasion for large beams in several parts of his work, he endeavoured to collect them from the various forests of the empire. Among other massy pieces of timber, which were brought to Rome on this occasion, the trunk of a larch was of so prodigious a size, that the emperor, instead of using it in his works, ordered it to be laid up as a curiosity. It measured one hundred and twenty feet in length, and carried a diameter of two feet to the very end.‡ When this larch was alive, with all the furniture of its vast top and gigantic limbs, in proportion to such a trunk, it must have been an astonishing tree.

The largest tree that ever was known to be brought into Britain, formed the main mast of the Royal Sovereign in Queen Anne's time. It was ninety-nine feet long; and thirty-five inches in diameter.*

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* Lib. xii. c. 1.

† Lib. xvi. c. 44.

‡ Plin. *Nat. Hist.* l. xvi. c. 40.

Mr Evelin, from whom we have this account, mentions, in the same place, a still larger tree, which formed the keel of the Crown, a French ship of the last century. It was one hundred and twenty feet long, which is the length of Tiberius's larch, though it had not probably the circumference of that tree.

The masts of our ships of war, at present, are never made of single trees. It is the method to lay two or three trees together, and fitting them tight to each other, to bind them close, at proper distances, with pitched ropes. But a very noble fir was lately brought into England, which was not spliced in the common mode, but was converted, in its full dimensions, into the bowsprit of the Britannia, a new ship of one hundred and ten guns; in which capacity, I have heard, it serves at present. This fir was ninety-six feet in length, and had, I believe, the full diameter of Tiberius's larch.

Maundrel tell us, that when he travelled into the East, a few of the old cedars of Lebanon were still left. He found them among the snow near the highest part of the mountain. "I measured one of the largest of them," says he, "and found it twelve yards six inches in girth, and yet sound; and thirty seven yards in the spread of its boughs. At about five or six yards from the ground, it divided into five limbs, each of which was a massy tree."

A later traveller, Van Egmont, who visited the scenes of Mount Lebanon, seems also to speak of the same trees which Maundrel mentions. He observed them, he says, to be of very different ages. The old standards had low stems, growing like fruit trees; whereas the younger made a much more stately appearance, not a little resembling pines. Of the ancient trees he saw only eleven: those of younger growth far exceeded that number. Some of these old cedars were four or five fathoms in circumference. Under one of them was erected an altar, where the clergy of Tripoly, and the neighbouring convent of Massurki, sometimes celebrated mass. Fom this tree spread five limbs, resembling substantial trees, each being about an hundred feet in length, and inserted into the main trunk about fourteen or fifteen feet from the ground.

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* *Sylva*, p. 228.

These are noble dimensions, though it is probable, that the best of the trees now left upon Mount Lebanon are only the refuse of the ancient race; as we may well suppose the best were occasionally taken first. If Solomon's botanical works had still been preserved, it is probable we should have met with trees of much larger dimensions than these which Maundrel and Van Egmont measured.

One of the noblest trees on record, is a chestnut upon mount Ætna, called the *Castagna de cento cavalli.* It is still alive, but has lost much of its original dignity. Many travellers take notice of it. Brydone was the last who saw it. His account is dated about sixteen or seventeen years ago.* It had then the appearance of five distinct trees. The space within them, he was assured, had once been filled with solid timber, when the whole formed only one tree. The possibility of this he could not at first conceive; for the five trees together contained a space of two hundred and four feet in diameter. At length, however, he was convinced, not only by the testimony of the country, and the accurate examination of the canon Recupero, a learned naturalist in those parts, but by the appearance of the trees themselves, none of which had any bark on the inside. This chestnut is of such renown, that Brydone tells us, he had seen it marked in an old map of Sicily, published a hundred years ago.†

Among other authors who mention this tree, Kircher gives us the following account of its condition in his day, which might be about a century before Brydone saw it: "Ostendit mihi viæ dux, unius castaniæ corticem, tantæ magnitudinis, ut intra eam integer pecorum grex, a pastoribus tanquam in caula commodissima, noctu intercluderetur."‡ From this account, one should imagine that in Kircher's days the five trees were more united than when Brydone saw them.

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* This was written in 1791.

† See Brydone's *Travels*, vol. i. p. 117.

‡ "My guide shewed me here, what I can call only the shell, or bark of a chestnut tree, but of such amazing circumference, that one of the shepherds of the country used it as a fold for a large flock of sheep."

At Newstadt, in the duchy of Wirtemberg, stood a lime, which was for many ages so remarkable, that the city frequently took its denomination from it, being often called *Newstadt ander Grassen Linden*, or Newstadt near the Great Lime. Scarce any person passed near Newstadt without visiting this tree; and many princes and great men did honour to it, by building obelisks, columns, and monuments, of various kinds, around it, engraved with their arms and names, to which the dates were added, and often some device. Mr Evelin,* who procured copies of several of these monumental inscriptions, tells us, there were near two hundred of them. The columns on which they were fixed, served also to bear up the vast limbs of the tree, which began, through age, to become unwieldy. Thus this mighty plant stood many years in great state, the ornament of the town, the admiration of the country, and supported, as it were, by the princes of the empire. At length it felt the effects of war. Newstadt was surrounded by an enemy, and the limbs of this venerable tree were mangled in wantonness by the besieging troops. Whether it still exist, I know not; but long after these injuries, it stood a noble ruin, discovering by the foundations of the several monuments, which formerly propped its spreading boughs, how far its limits had once extended.

As a parallel to the lime of Newstadt, I shall next celebrate the lime of Cleves. This also was a tree of great magnificence. It grew in an open plain, just at the entrance of the city, and was thought an object worthy to exercise the taste of magistracy. The burgomaster of his day had it surveyed with great accuracy, and trimmed into eight broad pyramidal faces. Each corner was supported by a handsome stone pillar; and in the middle of the tree was cut a noble room, which the vast space contained within easily suffered, without injuring the regularity of any of the eight faces. To crown all, the top was curiously clipped into some kind of head, and adorned artificially; but in what manner, whether with the head of a lion or a stag, a weathercock or a sun-dial, we are not told: it was something, however, in the highest style of Dutch taste. This tree was long the admiration and envy of all the states of Holland; and Mr Evelin, from whom we have the relation, seems to have thought it a piece of excellent workmanship: "I needed not," says he, "have charged this paragraph with half these trees, but to shew how much more the lime tree seems disposed to be wrought into these arborious wonders, than other trees of slower growth."[†]

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* See Evelin's *Sylva*, page 225.

The oaks of Chaucer are celebrated, in the annals of poetry, as the trees under which

> ——— the laughing sage
> Caroll'd his moral song —

They grew in the park at Donnington Castle, near Newbery, where Chaucer spent his latter life in studious retirement. The largest of these trees was called the King's Oak, and carried an erect stem of fifty feet, before it broke into branches, and was cut into a beam five feet square. The next in size was called the Queen's Oak, and survived the calamities of the civil wars in King Charles's time, though Donnington Castle, and the country around it, were so often the scenes of action and desolation. Its branches were very curious: they pushed out from the stem in several uncommon directions, imitating the horns of a ram, rather than the branches of an oak. When it was felled, it yielded a beam forty feet long, without knot or blemish, perfectly straight, four feet square at the butt end, and near a yard at the top. The third of these oaks was called Chaucer's, of which we have no particulars; in general only we are told, that it was a noble tree, though inferior to either of the others.[†] None of them, I should suppose from this account, was a tree of picturesque beauty. A straight stem, of forty or fifty feet, let its head be what it will, can hardly produce a picturesque form. When we admired the stone pine, we supposed its stem to take a

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[*] See Evelin's *Sylva*, p. 225.

[*] Ibid, p. 227.

sweeping line; and to be broken also with stumps, or decayed branches.

Close by the gate of the water walk at Magdalen College in Oxford, grew an oak, which perhaps stood there a sapling, when Alfred the Great founded the University. This period only includes a space of nine hundred years, which is no great age for an oak. It is a difficult matter indeed to ascertain the age of a tree. The age of a castle or abbey is the object of history: even a common house is recorded by the family that built it. All these objects arrive at maturity in their youth, if I may so speak. But the tree, gradually completing its growth, is not worth recording in the early part of its existence. It is then only a common tree, and afterwards, when it becomes remarkable for its age, all memory of its youth is lost. This tree, however, can almost produce historical evidence for the age assigned to it. About five hundred years after the time of Alfred, William of Wainfleet, Dr Stukely tells us, expressly ordered his college to be founded near the Great Oak;* and an oak could not, I think, be less than five hundred years of age to merit that title, together with the honour of fixing the site of a college. When the magnificence of Cardinal Wolsey erected that handsome tower, which is so ornamental to the whole building, this tree might probably be in the meridian of its glory, or rather perhaps it had attained a green old age. But it must have been manifestly in its decline at that memorable era, when the tyranny of James gave the fellows of Magdalen so noble an opportunity of withstanding bigotry and superstition. It was afterwards much injured in Charles II's time, when the present walks were laid out. Its roots were disturbed, and from that period it declined fast, and became reduced by degrees to little more than a mere trunk. The oldest members of the University can scarce recollect it in better plight. But the faithful records of history † have handed down its ancient dimensions. Through a space of sixteen yards, on every side from its trunk, it once flung its boughs; and under its magnificent pavilion could have sheltered with ease three thousand men; though, in its decayed state, it could for many years do little more than shelter some luckless individual, whom the driving shower had overtaken in his evening walk. In the summer of the year 1788, this magnificent ruin fell to the ground, alarming the College with its rushing sound. It then appeared how precariously it had stood for many years. Its grand tap-root was decayed, and it had hold of the earth only by two or three roots, of which none was more than a couple of inches in diameter. From a part of its ruins a chair has been made for the president of the College, which will long continue its memory.

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* Itiner. Curios.

† See Dr Plot's *History of Oxfordshire*, ch. vi. sect. 45.

Near Worksop grew an oak, which, in respect both to its own dignity and the dignity of its situation, deserves honourable mention. In point of grandeur, few trees equalled it. It overspread a space of ninety feet from the extremities of its opposite boughs. These dimensions will produce an area capable, on mathematical calculation, of covering a squadron of two hundred and thirty-five horse. The dignity of its station was equal to the dignity of the tree itself. It stood on a point where Yorkshire, Nottinghamshire, and Derbyshire unite, and spread its shade over a portion of each. From the honourable station of thus fixing the boundaries of three large counties, it was equally respected through the domains of them all, and was known far and wide by the honourable distinction of the Shire Oak, by which appellation it was marked among cities, towns, and rivers, in all the larger maps of England.*

In the garden at Tortworth, in Gloucestershire, an old family seat, belonging to Lord Ducie, grows a Spanish chestnut of great age and dimensions. Traditional accounts suppose it to have been a boundary tree in the time of King John; and I have met with other accounts, which place it in the same honourable station in the reign of King Stephen. How much older it may be, we know not. Considerably older it probably was;

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* See Evelin's *Sylva*, p. 232.

for we rarely make boundary trees of saplings and offsets, which are liable to a thousand accidents, and are unable to maintain, with proper dignity, the station delegated to them. This tree is at present in hands which justly value and protect its age. It was barely included within the garden wall, which bore hard upon it. Lord Ducie removed the encumbrance, and at the same time applied fresh earth to the roots of the tree, which seems to have enlivened it. So late as in the year 1788, it produced great quantities of chestnuts, which, though small, were sweet and well flavoured. In the great chestnut cause, mentioned a little above,* between Barrington and Ducarel, this venerable tree was called upon as an evidence, and gave a very respectable testimony in favour of the chestnuts.

After mentioning this chestnut, which has been celebrated so much, I cannot forbear mentioning another, which is equally remarkable for never having been celebrated at all, though it is one of the largest trees that perhaps ever existed in England. If it had ever been noticed merely for its bulk, I should have passed it over among other gigantic plants that had nothing else to boast; but as no historian or antiquarian, so far as I have heard, hath taken the least notice of it, I thought it right, from this very circumstance, to make up the omission, by giving it at least what little credit these papers could give. This chestnut grows at a place called Wimley, near Hitchin Priory, in Hertfordshire. In the year 1789, at five feet above the ground, its girth was somewhat more than fourteen yards. Its trunk was hollow, and in part open; but its vegetation was still vigorous. On one side, its vast arms, shooting up in various forms, some upright, and others oblique, were decayed and peeled at the extremities, but issued from luxuriant foliage at their insertion in the trunk. On the other side, the foliage was still full, and hid all decay.

In a glade of Hainhault Forest in Essex, about a mile from Barkingside, stands an oak, which has been known through many centuries by the name of Fairlop. The tradition of the country traces it half way up the Christian era. It is still a noble tree, though it has now suffered greatly from the depredations of time. About a yard from the ground, where its rough fluted stem is thirty-six feet in circumference, it divides into eleven vast arms, yet not in the horizontal manner of an oak, but rather in that of a beech. Beneath its shade, which overspreads an area of three hundred feet in circuit, an annual fair has long been held on the 2d of July, and no booth is suffered to be erected beyond the extent of its boughs.* But as their extremities are now become sapless, and age is yearly curtailing their length, the liberties of the fair seem to be in a very desponding condition. The honour, however, is great. But honours are often accompanied with inconveniences, and Fairlop has suffered from its honourable distinctions. In the feasting that attends a fair, fires are often necessary; and no places seemed so proper to make them in as the hollow cavities formed by the heaving roots of the tree. This practice has brought a speedier decay on Fairlop than it might otherwise have suffered.

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* See page 129.

Not far from Blanford, in Dorsetshire, stood very lately a tree, known by the name of Damory's Oak. About five or six centuries ago, it was probably in a state of maturity. At the ground, its circumference was sixty-eight feet; and seventeen feet above the ground, its diameter was four yards. As this vast trunk decayed, it became hollow, forming a cavity, which was fifteen feet wide, and seventeen feet high, capable of holding twenty men. During the Civil Wars, and till after the Restoration, this cave was regularly inhabited by an old man, who sold ale in it. In the violent storm in the year 1703, it suffered greatly, many of its noblest limbs having been torn from it. But it was still so grand a ruin, above forty years after, that some of its branches were seventy-five feet high, and extended seventy-two. In the year 1755, when it was fit for nothing but firewood, it was sold for fourteen pounds.†

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* I am doubtful whether the fair here mentioned has not been for some time discontinued.

† See Hutchins's *Account of Dorsetshire*, vol. i. with a print of it.

In Torwood, in the county of Stirling, upon a little knoll, stand at this time the ruins of an oak, which is supposed to be the largest tree that ever grew in Scotland. The trunk of it is now wholly decayed and hollow, but it is evident, from what remains, that its diameter could not have been less than eleven or twelve feet. What its age may be, is matter only of conjecture; but from some circumstances, it is probably a tree of great antiquity. The little knoll it stands on is surrounded by a swamp, over which a causeway leads to the tree, or rather to a circle which seems to have run round it. The vestiges of this circle, as well as the causeway, bear a plain resemblance to those works which are commonly attributed to the Druids; so that it is probable this tree was a scene of worship belonging to those heathen priests. But the credit of it does not depend on the dubious vestiges of Druid antiquity. In a later scene of greater importance, (if tradition ever be the vehicle of truth,) it bore a great share. When that illustrious hero, William Wallace, roused the spirit of the Scotch nation to oppose the tyranny of Edward, he often chose the solitude of Torwood as a place of rendezvous for his army. Here he concealed his numbers and his designs, sallying out suddenly on the enemy's garrisons, and retreating as suddenly, when he feared to be overpowered. While his army lay in those woods, the oak, which we are now commemorating, was commonly his head quarters. Here the hero generally slept; its hollow trunk being capacious enough to afford shelter, not only to himself, but to several of his officers. This tree has ever since been known by the name of Wallace Tree, by which name it may easily be found in Torwood to this day.*

Among these celebrated trees, we must not forget Hern's Oak in Windsor Forest. Shakespeare tells us,—

—— an old tale goes, that Hern the hunter,
Some time a keeper here in Windsor Forest,
Doth all the winter time, at still of midnight,
Walk round about this oak, with ragged horns;
And then he blasts the trees, destroys the cattle,
Makes the milch-cow yield blood, and shakes a chain
In hideous, dreadful manner.——

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* See Nimmo's *History of Stirlingshire*, p. 145.

This tree, as far as we can pay credit to tradition and general opinion, still exists. In the little park at Windsor, is a walk, known by the name of Queen Elizabeth's Walk: it consists of elms, among which is a single oak taken into the row, as if particularly meant to be distinguished at the time when the walk was laid out. This tree is supposed to be Hern's Oak. It is a large tree, measuring about twenty-four feet in circumference, and is still in great vigour, which, I think, chiefly injures its historical credit. For though it is evidently a tree in years, and might well have existed in the time of Elizabeth, it seems too strong and vigorous to have been a proper tree, in that age, for Hern the Hunter to have danced round. Fairies, elves, and that generation of people, universally chose the most ancient and venerable trees they could find to gambol under; and the poet, who should describe them dancing under a sapling, would shew little acquaintance with his subject. That this tree could not be called a venerable tree two hundred years ago, is evident, because it hardly can assume that character even now. And yet an oak, in a soil it likes, will continue so many years in a vigorous state, that we must not lay more stress on this argument than it will fairly bear. It may be added, however, in its favour, that a pit, or ditch, is still shewn near the tree, as Shakespeare describes it, which may have been preserved with the same veneration as the tree itself.

There is an oak, in the grounds of Sir Gerrard Van Neck, at Heveningham, in Suffolk, which carries us likewise into the times of Elizabeth. But this tree brings its evidence with it — evidence which, if necessary, might carry it into Saxon times. It is now falling fast into the decline of years, and every year robs it more of its honours. But its trunk, which measures thirty-five feet in circumference, still retains its grandeur, though the ornaments of its boughs and foliage are much reduced. But the grandeur of the trunk consists only in appearance. It is a mere shell. In Queen Elizabeth's time it was hollow, and from this circumstance the tree derives the honour of being handed down to posterity. That princess, who from her earliest age loved masculine amusements, used often, it is said, in her youth, to take her stand in this tree, and shoot the deer as they passed. From that time it has been known by the name of Queen Elizabeth's Oak.

After celebrating the grandeur of these sons of the forest, I should wish to introduce, in due subordination, two or three celebrated fruit trees.

In the deanery garden, at Winchester, stood lately (so lately as the year 1757) an ancient fig tree. Through a succession of many deans it had been cased up and shielded from winds and frost. The wall to which it was nailed, was adorned with various inscriptions in Hebrew, Greek, and Latin, alluding to such passages of the sacred writings as do honour to the fig tree. After having been presented with several texts of Scripture, the reader was informed, by way of climax, that in the year 1623, King James I. tasted of the fruit of this fig tree with great pleasure.

At Lambeth, likewise, are two celebrated fig trees, which, on good grounds, are supposed to have been planted by Cardinal Pole. They are immense trees of the kind, covering a space of wall fifty feet in height, and forty in breadth. The circumference of the stem of one of them is twenty-eight inches, and of the other, twenty-one. They are of the white Marceilles kind, and have for many years furnished the tables of the archbishops of Canterbury with very delicious fruit.

Among other remarkable fruit trees may be reckoned a vine belonging to the late Sir Charles Raymond, at Valentine House, near Ilford in Essex. It was planted a cutting, in the year 1758, of the black Hamburgh sort, and as this species will not easily bear the open air, it was planted in the hot-house, though without any preparation of soil, which is in those grounds a stiff loam, or rather clay. The hot-house is a very large one, about seventy feet in front; and the vine, which, I understand, is not pruned in the common way, extends two hundred feet, part of it running along the south wall on the outside of the hot-house. In the common mode of pruning this species of vine is no great bearer, but managed as it is here, it produces wonderfully. Sir Charles Raymond, on the death of his lady in 1778, left Valentine House, at which time the gardener had the profits of the vine. It annually produces about four hundred weight of grapes, which used formerly (when the hot-house, I suppose, was kept warmer) to ripen in March, though lately they have not ripened till June, when they sell at four shillings a pound, which produces about eighty pounds. This account I had from Mr Eden himself, the gardener, who planted the vine. With regard to the profits of it, I think it probable, from the accounts I have had from other hands, that when the grapes ripened earlier, they produced much more than eighty pounds. A gentleman of character informed me, that he had it from Sir Charles Raymond himself, that after supplying his own table, he has made one hundred and twenty pounds a-year of the grapes; and the same gentleman, who was curious, inquired of the fruit dealers, who told him, that in some years they supposed the profits have not amounted to less than three hundred pounds. This does not contradict Mr Eden's account, who said, that the utmost he ever made of it (that is, I suppose, when the grapes sold at four shillings a pound in June) was eighty-four pounds. At the lowest calculation, the profits were prodigious. The stem of this vine was, in the year 1789, thirteen inches in circumference.

But the vine, even as a timber tree, hath its place in history. Mr Misson, a traveller, of whom Mr Addison speaks with particular respect, tells us,* that the gates of the great church at Ravenna, in Italy, were made of vine planks, twelve feet long, and fourteen or fifteen inches broad. The vine from which these planks were taken, must have been an enormous vegetable of its kind. Indeed, if the account had not been well attested, it would have exceeded credit. Misson adds, that the soil about Ravenna, on the side next the sea, was remarkable for the enormous growth of vines; and he supposes it was owing to the rich manure left by the sea. For though the town of Ravenna, in his day, stood a league from the Adriatic, yet it is an undoubted fact, that the sea formerly washed its walls, and that the present Ravenna occupies the site of the ancient Ravenna, which, we know, was one of the best ports the Romans had on the Adriatic.

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* See Misson's *Travels in Italy*.

Having thus given the history of some of the most celebrated trees on record, I cannot help subjoining an account of a few particular species, which are remarkably singular.

In the memoirs of the French Academy we find a description of a very curious tree, by Mr Adanson, called the Boabab. It is a native of Senegal, and has been taken notice of by Prosper Alpinus, and other botanists; but Mr Adanson, who spent several years in those parts, seems to have had the best opportunities of being acquainted with it. As to its botanical peculiarities, which are great, and its physical uses, which are many, we enter not into them. We have only to do with its external form, which is very singular. It is supposed to be the largest of Nature's vegetable productions,—the behemoth of the forest. From Mr Adanson's account, one should suppose the boabab to be a kind of natural pollard. He tells us, its trunk seldom rises higher than twelve feet, though its diameter exceeds seventy. From this amazing trunk spring a number of massy branches. The centre branch rises perpendicularly sixty or seventy feet; the lateral branches shoot in angles less and less acute, till the lowest series form right angles with the trunk, and so become quite horizontal. In this direction they stretch fifty or sixty feet, till their weight brings them to the ground, with which the extremities of many of them are in contact. So that the whole tree has the appearance of a woody hemisphere, whose radius, including the thickness of the trunk, must be about eighty or ninety feet. Whatever may be said for the peculiarity of such a tree, we cannot say much in favour of its picturesque form. It seems to be little more than a monstrous bush. The bark of this tree is of an ash coloured tint. Its leaves are oval, pointed at the end, and about five inches long. Though the boabab is a native of Africa, yet a small one was found growing in the island of Martinico. It is supposed, however, to have been brought thither by some of the negro slaves, among whom it is common to carry seeds of different kinds, as charms and remedies: and it is certain, that many African plants have been propagated in the West Indies in this accidental manner.

Mr Evelin gives us the description of another curious tree, called the Arbor de Rays, which is found chiefly in the East Indies, and is remarkable for the manner in which it propagates. From the end of its boughs it distills, in a continued viscous thread, a kind of gummy matter; which increases like an icicle till it reach the ground, where it takes root, and becomes a stem, putting forth new branches, and propagating anew, so that a single plant of this kind may increase into a forest.

Strabo describes an Indian tree, which, I should suppose, was the same with Mr Evelin's Arbor de Rays; only Strabo accounts more simply for the mode of its propagation. Its branches, he says, grow horizontally about twelve cubits; and then take a direction to the earth, where they root themselves; and when they have attained maturity, continue to propagate in the same manner, till the ground is covered with them for a considerable space; or, as Strabo more expressively describes it, till the whole becomes like a tent supported by many columns.* This seems to be the tree of which Milton speaks:

> Branching so broad and long, that in the ground
> The bended twigs take root; and daughters grow
> About the mother tree, a pillar'd shade,
> High overarch'd, with echoing walks between.
> There oft the Indian herdsman, shunning heat,
> Shelters in cool, and tends his pasturing herds
> At loop-holes cut through thickest shade.

Modern travellers speak of an Indian tree like this, (the only tree of the kind they know,) which they call the Banian Tree, or Indian Fig. In its mode of propagation, it corresponds rather with Strabo's description, than Evelin's. We are informed, however, that, although common in India, it is not very commonly found in that state of grandeur in which it is here described. Nor indeed will it easily take that very regular form, without some little assistance from art. Instead of the Indian herdsman, whom Milton introduces, it is often at this day inhabited by a Bramin, who builds his little reed-thatched shed against its trunk, and amuses his leisure by directing its lengthening branches into proper places, and forming each into a regular arch. Here, dressed in a long white tunic, the habit of his order, and adorned with a flowing beard, he spends his solitary hours in wandering among the verdant alleys of his tree, scarce ever leaving its limits. The inhabitants of the district resort daily to him with the necessaries of life, and receive, in return, his prayers and benedictions.

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* *Πολυστυλω σκηνη ομοιον*, p. 694. edit. Caus.

There is a tree in the island of Java, called the Upas, or Poison Tree, which, in the history of curious trees, should not be omitted; though the accounts of it are so wonderful, that some have esteemed them fabulous. They are given to the public by a surgeon, belonging to the Dutch East India Company, of the name of Foersch, who was stationed at Batavia in the year 1774. Surprising, however, as these accounts may be, they are accompanied with so many public facts, and names of persons and places, that it is somewhat difficult to conceive them fabulous. The abridged narrative of this strange production is this:

The upas grows about twenty-seven leagues from Batavia, in a plain surrounded by rocky mountains, the whole of which plain, containing a circle of ten or twelve miles round the tree, is totally barren. Nothing that breathes or vegetates can live within its influence. The bird that flies over it drops down dead — the beast that wanders into it expires. The whole dreadful area is covered with sand, over which lie scattered loose flints and whitening bones. This tree may be called the emperor's great military magazine. In a solution of the poisonous gum, which exudes from it, his arrows and offensive weapons are dipped. The procuring therefore of this poisonous gum is a matter of as much attention as of difficulty. Criminals only are employed in this dreadful service. Of these several, every year, are sent, with a promise of pardon and reward if they procure it. Hooded in leathern cases, with glass eyelet-holes, and secured as much as possible from the foul effluvia of the air they are to breathe, they undertake this melancholy journey, travelling always with the wind. About one in ten escapes, and brings away a little box of this direful commodity.

Of the dreadful and sudden effect of this poison, the author saw many instances. He mentions, among others, the execution of thirteen young ladies of the emperor's seraglio, who, having been convicted of infidelity to his bed, were condemned to die by the poison of upas, which is considered in Java, like the axe in England, as an honourable instrument of death. At eleven o'clock in the forenoon, these unhappy victims were led into a court in the palace, where a row of thirteen posts had been erected. To these they were bound. As they stood trembling, they were obliged to confess the justice of their sentence, which each of them did, by laying one hand on the Koran, and the other on her breast. When these confessions were finished, and a few religious ceremonies, on a sign given by the judge, an executioner stepped forward, who bared their breasts, and, amidst their cries and shrieks, with a poisoned lancet made a slight incision in each. The author says, he stood by with his watch in his hand. In five minutes they were seized with convulsive spasms, excruciating agonies succeeded, and in sixteen minutes they were all dead. A frightful change came on. From being objects of beauty, they became spectacles of horror. Livid spots broke out upon them; their faces swelled; their cheeks became blue, and their eyes yellow.

The author says, that on the coast of Macassar, there are found trees very like the upas of Java, but not so malignant. If so, it is probable, that all these trees are of the same kind; only the Java upas has found a situation where its poisonous qualities are more sublimed.

Dr Darwin, in his *Loves of the Plants*, has given us a picture of the situation of this dreadful tree, the existence of which he seems to believe:

> Where seas of glass with gay reflections smile
> Round the green coasts of Java's palmy isle,
> A spacious plain extends its upland scene,
> Rocks rise on rocks, and fountains gush between.

Soft breathes the breeze, eternal summers reign,
And showers prolific bless the soil—in vain!
No spicy nutmeg scents the vernal gales;
No towering plantain shades the midday vales;
No grassy mantle hides the sable hills;
No flowery chaplet crowns the trickling rills;
No step retreating, on the sand impress'd,
Invites the visit of a second guest:
Fierce, in dread silence, on the blasted heath
Fell Upas sits.

We feel it to be rather a disagreeable duty to undeceive the reader as to this fine romantic fable; but still leaving it as the undisputed property of poets and fiction mongers, we are compelled to tell the truth, and nothing but the truth.

Foersch, who gave the account of the Upas, or Oopas Tree of Java, in the year 1783, was a surgeon of the third class at Samarang. The falsehood of his account will be best exposed by the following abridgment of the information contained in a most valuable essay on the Oopas, or Poison Tree, of Java, addressed to the Honourable Thomas Stamford Raffles, the lieutenant-governor, by Dr Thomas Horsfield, which, we are assured, the reader will not consider tedious, when the interest of the subject is considered.

The author states his satisfaction in being able to give a faithful description of the tree, from personal observations made on the spot where it grows. To a person in any degree acquainted with the geography of the island, with the manners of the princes of Java, and their relation to the Dutch government at that period, or with its internal history during the last fifty years, the first glance at the account of Foersch, must have evinced its falsity and misrepresentation. But although Dr Horsfield considers it as too contemptible to merit examination for the purpose of refuting the falsehoods Foersch has stated, in so far as relates to the situation of the poison tree, its effects on the surrounding country, and the application said to be made of the oopas on criminals in different parts of the island, as well as to the description of the poisonous substance itself, and the mode of collecting it, all of which have been proved to be forgeries; yet the existence of a tree in Java, from whose sap a poison is prepared, equal in fatality, when thrown into the circulation, to the strongest animal poisons hitherto known, is a fact which Dr Horsfield proposes to illustrate.

The tree which produces the poison is called *Antshar*, and grows in the eastern extremity of the island, in the district of Blambangan, and in the environs of Banjoo-wangee, as well as in various other parts of Java. The antshar belongs to the class *Monoecia* of Linnæus. The male and female flowers are produced in catkins (amenta) on the same branch, at no great distance from each other; the female flowers are in general above the male. The characters of the genus are: Male flower—*Calix*, consisting of several scales which are imbricate; *corol*, none; *stamens*, filaments many, very short, covered by the scales of the receptacle-anthers. The receptacle on which the filaments are placed, has a conical form, abrupt, and somewhat rounded above. Female flower —*Catkins*, ovate; *calix*, consisting of a number of imbricate scales, (generally more than in the male) containing one flower; *corol*, none; *pistil*, germ single, ovate, erect; *styles*, two, long, slender, spreading; *stigmas*, single, acute; *seed vessel*, an oblong drupe, covered with the calix; *seed*, an ovate nut with one cell.

The antshar is one of the largest trees in the forest of Java. The stem is cylindrical, perpendicular, and rises, completely naked, to the height of sixty, seventy, or eighty feet. Near the surface of the ground it spreads obliquely, dividing into numerous broad appendages, or wings, much like the *Canarium commune*, and several others. It is covered with a whitish bark, slightly bursting in longitudinal furrows; near the ground this bark is, in old trees, more than half an inch thick, and, upon being wounded, it yields plentifully the milky juice from which the celebrated poison is prepared. A puncture or incision being made in the tree, the juice, or sap, appears oozing out, of a yellowish colour, somewhat frothy, from old trees; paler, and nearly white, from young ones. When exposed to the air, its surface becomes brown. The consistence very much resembles milk, only it is thicker and more viscid. This sap is contained in the true bark, or *cortex*, which yields a considerable quantity from a puncture, so that in a short time a cupful may be collected from a large tree. The inner bark, or *liber*, is of a close fibrous texture, like that of the *Morus popyrofera*, and when separated from the other bark, and cleansed from the adhering particles, resembles a coarse piece of linen. It has been worked into ropes, which are very strong, and the poorer class of people employ the inner bark of younger trees, which is more easily prepared, for the purpose of making a coarse stuff, which they wear when working in the fields. But it requires much bruising, washing, and a long immersion in water, before it can be used; and even when it appears completely purified, persons wearing this dress, on being exposed to the rain, are affected with an intolerable itching, which renders their flimsy covering almost insupportable. This deleterious quality exists in the gum, a small portion of which still adhering to the bark, produces this irritating effect when it becomes wet. It is singular that this property of the bark is known to the Javanese in all parts where the tree grows, while the preparation of a mortal poison from its juice, is an exclusive art of the inhabitants of the eastern extremity of the island. One of the regents in the eastern districts, ordered caps to be prepared from the inner bark of the antshar, which were stiffened in the usual manner with thick rice water, for the purpose of decorating his *mantries*, but they all decidedly refused to wear them, asserting that it would cause their hair to fall off.

The stem of the antshar having arrived at the before mentioned height, sends off a few stout branches, which, spreading horizontally, with several irregular curves, divide into smaller branches, and form a hemispherical, but not very regular crown. The external branches are short, have several unequal bends, and are covered with a brown bark. The leaves are alternate, oblong, heart-shaped, somewhat narrower towards the base, entire, with a waving or undulated margin, which sometimes has a few irregular sinuosities. The longitudinal nerve divides the leaf somewhat obliquely, and the inferior division is generally the larger. The point is irregular, some are rounded at the end, others run off almost abruptly to a short point. The upper surface is nearly smooth, but some widely dispersed short villi are observed on it; the inferior surface is slightly rough, reticulated, and marked with oblique-parallel veins. The petiole is short. The flowers are produced towards the extremity of the outer branches, in a few scattered catkins; the common peduncle of the males is slender and long; that of the females is shorter.

Previous to the season of flowering, about the middle of June, the tree sheds its leaves, which reappear when the male flowers have completed the office of fecundation. It delights in a fertile and not very elevated soil, and is only found in the largest forests. Dr Horsfield first met with it in the province of Poegar, on his way to Banjoo-wangee. In the province of Blambangan, he visited four or five different trees, two of which furnished the juice for the preparation of the oopas. The largest of these trees had a diameter of at least ten feet, where the oblique appendages of the stem entered the ground; and where the regularly round and straight stem began, the extent of at least ten feet between the points of two opposite appendages at the surface of the ground, its diameter was full three feet. One of the experiments to be related below, was made with the oopas, prepared by Dr Horsfield after his return to the chief village. He had some difficulty in inducing the inhabitants to assist him in collecting the juice, as they feared a cutaneous eruption and inflammation; but they were only affected by a slight heat and itching of the eyes. In clearing the new grounds in the environs of Banjoo-wangee for cultivation, it is with much difficulty the inhabitants can be made to approach the tree, as they dread the cutaneous eruption which it is known to produce when newly cut down. But, except when the tree is largely wounded, or when it is felled, by which a large portion of the juice is disengaged, the effluvia of which, mixing with the atmosphere, affect the persons exposed to it with the symptoms above mentioned, the tree may be approached and ascended like the other trees in the forests.

The antshar, like the trees in its neighbourhood, is, on all sides, surrounded by shrubs and plants; in no instance did Dr Horsfield observe the ground about it naked or barren. The largest tree he met with in Blambangan was so closely environed by the other trees and shrubs common in the forests, that it was with difficulty he could approach it. Several vines and climbing shrubs, in complete health and vigour, adhered to it, and ascended to nearly half its height. And, at the time he visited the tree and collected the juice, he was forcibly struck with the egregious misrepresentation of Foersch. Several young trees spontaneously sprung from seeds which had fallen from the parent, reminding the Doctor of a line in Darwin's *Botanic Garden:*

> Chain'd at his root, two scion demons dwell.

While, in recalling his beautiful description of the oopas, his vicinity to the tree made him rejoice, with reason, that it is founded on fiction. The wood of the antshar is white, light, and of a spongy appearance.

Dr Horsfield also describes a poisonous shrub of Java, called the *Tshittik;* but he was unable to give its fructification, not having had the good fortune to find it in a flowering state. It is a large, winding shrub. The root extends, creeping to a considerable distance, parallel to the surface of the earth, sending off small fibres at different curves, while the main root strikes perpendicularly into the ground. In large individuals, it has a diameter of two or three inches; it is covered with a reddish-brown bark, containing a juice of the same colour, of a peculiar, pungent, and somewhat nauseous odour. From this bark the poison is prepared. The stem, which in general is shrubby, sometimes acquires the size of a small tree; it is very irregular in its ascent and distribution, and, having made several large bends near the surface of the earth, it divides (at long intervals) into numerous branches, which attach themselves to the neighbouring objects, and pursue a winding course, at no great distance from the ground, and nearly parallel to it. In some instances it rises and ascends to the top of large trees. Its form is completely cylindrical, and it is covered with a gray spotted bark. The lesser branches arise from the stem in pairs, (opposite,) and are very long, slender, cylindrical, divergent or spreading, and covered with a smooth, gray, shining bark. On these the leaves are placed, opposite, in single pairs, or on a common footstalk, pinnate in two or three pairs. They are ovate, spear-shaped, entire, terminating in a long narrow point, completely smooth, and shining on the upper surface, with a few parallel veins beneath. The petioles are short, and somewhat curved; towards their extremity, the shoots produce cirrhi, or tendrils, which appear opposite to the leaflets, without any regular distribution, and some branches are entirely without them. They are about an inch long, slender, compressed, and spirally turned back, (recurvate;) at the end, near their base, a small stipula is found. The tshittik grows only in close, shady, almost inaccessible forests, in a deep black, fertile, vegetable mould. It is very rarely met with, even in the wildernesses of Blambangan.

The process of preparing the antshar was performed by an old Javanese, who was celebrated for his superior skill in this operation. About eight ounces of the juice, which had been collected the preceding evening, in the usual manner, and preserved in the joint of a bamboo, was carefully strained into a bowl. The sap of the following substances, which had been finely grated and bruised, were carefully expressed, and poured into it, namely, arum, nampoo, (Javanese,) kaemferia galanga, kontshur, amomum bengley, (a variety of zerrimbed,) common onion, and garlic, of each about half a drachm. The same quantity of finely pounded black pepper was then added, and the mixture stirred. The preparer then took an entire fruit of the *Capsicum fruticosum*, or Guinea pepper, and, having opened it, he carefully separated a single seed, and placed it on the fluid, in the middle of the bowl. The seed immediately began to reel round rapidly, now forming a regular circle, then darting towards the margin of the cup, with a perceptible commotion on the surface of the liquor, which continued about one minute. Being completely at rest, the same quantity of pepper was again added, and another seed of the capsicum laid on, as before. A similar commotion took place in the fluid, but in a less degree, and the seed was carried round with diminished rapidity. The same quantity of pepper was added a third time, when a seed of the capsicum being carefully placed in the centre of the fluid, it remained quiet, forming a regular circle about itself, in the fluid, resembling the halo of the moon. This is considered as a sign that the preparation of the poison is complete.

The dried milk of the antshar, having been preserved close a considerable time, can still be prepared and rendered active. A quantity, collected by Dr Horsfield about two months before, was treated in the following manner, by the same person who prepared the fresh juice. Being infused in as much hot water as was barely sufficient well to dissolve it, it was carefully stirred till all the particles, soluble in water, were taken up; a coagulum of resin remained undissolved. This was taken up and thrown away. The liquor was now treated with the spices above mentioned, the pepper, and the seed of the capsicum, in the same manner as the fresh juice. The same whirling motion occurred as above described, on the seed being placed in the centre. The activity of this preparation will appear from one of the experiments to be related.

The bark of the root of the tshittik is first carefully separated, and cleared of all the adherent earth; a proportionate quantity of water is poured on, and it is boiled about an hour, when the fluid is carefully filtered through a white cloth. It is then exposed to the fire again, and boiled down to nearly the consistence of an extract; in this state it much resembles a thick sirup. The following spices, having been prepared as above described, are added in the same proportion as to the antshar, viz. kæmferia galanga, (kontshur,) soonty, &c.; dshey, for common onion, garlic, and black pepper. The expressed juice of these is poured into the vessel, which is once more exposed to the fire for a few minutes, when the preparation is complete. The oopas of both kinds must be preserved in very close vessels.

The following experiments were tried witn the oopas from the antshar:—

Experiment 1. A dog of middling size was wounded in the muscles of the thigh with an arrow that had been immersed in the newly prepared oopas, and had been exposed to the air one night. In three minutes he seemed uneasy; he trembled, and had occasional twitchings; his hair stood erect; he had an alvine discharge. An attempt was made to oblige him to walk, but he could with difficulty support himself. In eight minutes he began to tremble violently, the twitching continued, and his breathing was hasty. In twelve minutes he extended his tongue and licked his jaws; he soon made an attempt to vomit. In thirteen minutes he had violent contractions of the pectoral and abdominal muscles, followed by vomiting of a yellowish fluid. In fifteen minutes the vomiting recurred. In sixteen minutes, he was almost unable to support himself, and he had violent contraction of the abdominal muscles. In seventeen minutes, he threw himself on the ground, his respiration was laborious, and he vomited a frothy matter. In nineteen minutes, violent retching took place, with interrupted discharge of a frothy matter from his stomach. In twenty-one minutes he had spasms of the pectoral and abdominal muscles, his breathing was very laborious, and the frothy vomiting continued. In twenty-four minutes, he was in apparent agony, turning and twisting himself, rising up and lying down, and throwing up froth. In twenty-five minutes he fell down suddenly, screamed, extended his extremities, which were convulsed, and had a second alvine discharge, the froth falling from his mouth. In the twenty-sixth minute he died. On dissecting the animal, about five minutes after death, the abdomen was opened, and a small quantity of serous fluid was found in the cavity; the liver, intestines, and other viscera, were natural. In the stomach a yellowish frothy mucilage was found adhering to the internal coat, which was contracted into wrinkles. In the thorax, the lungs were of a florid colour, and gorged with blood, the pulmonary vessels exhibiting through their coats a florid sanguinary fluid. On puncturing the ascending aorta, the blood gushed out of a florid colour. In the venæ cavæ the blood was of the usual dark hue, and, on puncture, flowed out forcibly. The muscles of the extremities were remarkably pale. On tracing the wound, it was found inflamed, and in two places along its course a small quantity of blood was found effused between the muscle and the tendon.

It would be torturing to the reader's feelings, as well as occupying more space than we can well afford, to give a full detail of the experiments made by Dr Horsfield with the oopas; we shall, therefore, merely run over the results of each.

Experiment 2. A dog of four months old was pricked in the muscles of the thigh with the oopas that had been prepared from the juice collected by Dr Horsfield in Poegar; the poison had remained on the arrow about forty-eight hours. He died in the thirteenth minute. In this dissection the appearances resembled those of the former, and the vessels on the surface of the brain were found more than naturally injected with blood, as were the longitudinal and frontal sinuses.

Experiment 3. An animal, called Gendoo by the Javanese, (the *Lemur volans* of Linnæus,) was pricked in the cavity of the ear with a mixture of the simple unprepared juice of antshar, with a little extract of tobacco. It felt the effects very soon, and in the twentieth minute it died. It must be remarked that this animal is uncommonly tenacious of life. In attempting to kill it, for the purpose of preparing and stuffing it, in more than one instance it resisted a violent strangulation full fifteen minutes.

Experiment 4. A young Lutra, (*Welinsang* of the Javanese,) was punctured in the muscles of the abdomen with the simple fresh juice of the antshar, mixed with a little extract of stramonium. Very soon after the puncture the animal became restless, with convulsive twitchings of the muscles, and it died in the twenty-fifth minute.

Experiment 5. A small dog was wounded, in the usual manner, in the muscles of the thigh, with the simple unprepared milk of the antshar. He continued barking and screaming violently for eight minutes, and he died in the fourteenth minute. On dissection, all the vessels in the thorax and liver were found gorged with blood, the stomach was distended with air, and its internal coat covered with froth.

Experiment 6. A bird of the genus *Ardea*, somewhat smaller than a fowl, was wounded in the muscles of the abdomen with a dart covered with the unprepared milk of the antshar. In the sixth minute after the puncture it died, without exhibiting much of the effects of the poison, having been held in the hand to prevent escape.

Experiment 7. A bird of the same genus was wounded in the muscles of the inferior part of the wing with the unprepared milk of the antshar, collected from a different tree in the province of Blambangan. In fifteen minutes he threw up a yellow matter from his stomach, and trembled. In twenty minutes he died, after being convulsed.

Experiment 8. A mouse was punctured in the muscles of the fore leg, near the articulation, with the prepared poison. He immediately shewed symptoms of uneasiness, running round rapidly; he was convulsed, and died in the tenth minute.

Experiment 9. This experiment was made with the sap of the antshar, collected near the village of Porrong, in Passooroowang, and prepared according to the process Dr Horsefield had seen at Banjoo-wangee, as already described. The animal was a dog, which died in the twenty-ninth minute after being punctured. The appearances on dissection were exactly the same as those in the first and second experiments.

Experiment 10. The simple unprepared juice of the antshar from the same tree, applied to a small dog in the usual manner, caused death in the nineteenth minute.

Experiment 11. A small monkey was wounded in the muscles of the thigh, with a dart covered with the prepared oopas from Banjoo-wangee. He was instantly affected by the poison, and in less than one minute lay prostrate on his side; on attempting to rise, he shewed symptoms of drowsiness. He was soon seized with vomiting and convulsions, and in the seventh minute he died.

Experiment 12. A cat was wounded with the same poison. In fifteen minutes she died convulsed.

Experiment 13. This was made on the animal of the ox tribe in common domestic use in Java, called Kerbow by the Javanese, and Buffalo by the Europeans. He was full grown, and in perfect health and vigour. Having been well secured, he was wounded by a dart somewhat larger than those used in the other experiments, covered about twenty-four hours before by the oopas from Blambangan. The wound was made in the internal muscles of the thigh, in an oblique manner, the skin having been previously divided to admit the weapon freely. The animal being in some degree loosened, the dart was extricated about one minute after the puncture. About six grains of the poison seemed to adhere to the wound. On the tenth minute the respiration was somewhat increased and heavy. In twenty minutes he had a copious alvine discharge, a watery fluid flowed from his nostrils, and he shewed some symptoms of drowsiness. In thirty minutes he had an increased flow of saliva, which dropped from his mouth; he extended his tongue and licked his jaws; his respiration became laborious; his pectoral muscles acted with violence, and the abdominal muscles were strongly contracted above the pelvis. His motions were slow and difficult. His muscular exertions were much diminished, and he exhibited great fatigue, accompanied by restlessness; all these symptoms gradually increased until the sixtieth minute. His hair stood erect; unable to support himself, he lay down; he had contractions of the extremities; the abdominal and pectoral muscles were more violently convulsed, and the respiration was more laborious. The restlessness rapidly increased; having risen with difficulty, he quickly lay down again exhausted and panting, the flow of saliva from his mouth continuing. In seventy-five minutes he extended his tongue, and made an attempt to vomit; his extremities trembled; he rose and threw himself down again suddenly, extending his head. On the eightieth minute the saliva flowed in streams from his mouth, mixed with froth. He retched violently, with excessive convulsive action of his pectoral muscles, but unable to vomit; he appeared in great agony. In ninety minutes he extended his head in strong convulsions, and trembled; the hair stood erect; he had again an alvine discharge; the breathing became more laborious, and the muscles of the abdomen and breast acted with excessive violence. The agony increasing, he rose for a few seconds, but, unable to support himself, he fell down again. In the hundred and tenth minute, having made an attempt to rise, he fell down head foremost, with convulsions of the extremities and head; he groaned violently; the respiration was much impeded, and recurred at intervals of fifteen seconds. In the hundred and twentieth minute he lay in great agony, groaned, bellowed, and extended his tongue and extremities, violently convulsed. In one hundred and twenty-five minutes he was entirely exhausted; the breathing returned after long intervals; and in the hundred and thirtieth minute he died convulsed. Fifteen minutes after the motions of life had ceased, Dr Horsfield opened the cavities of the abdomen and breast: the stomach was immensely distended with air; the vessels of all the viscera of the abdomen were injected and distended with blood. In the thorax the lungs were of a vivid florid crimson colour, and the great vessels (the aorta, venæ cavæ, and the arteries and veins of the lungs) were gorged with blood.

A small puncture being made in the aorta, the blood bounded out in a stream of a beautiful crimson colour; from the venæ cavæ it flowed of a dark livid colour. In the large muscles of the pectus, which had been divided in the dissection, a trembling vibratory motion was observed full twenty minutes after the motions of life had ceased.

The Wourali poison of Demarara would appear to be quicker and less excruciating in its production of death. According to Mr Waterton a large ox, weighing one thousand pounds, was shot with three arrows. The poison took effect in four minutes ; and in twenty-five minutes the animal was dead. The death appears to be extremely gentle. The poison is usually applied to a small dart, which is discharged with wonderful accuracy, and to great distances, by a blow-pipe, exactly like those of Java, which is a singular coincidence. To return to the antshar :

Experiment 14. A fowl, of middling size, was punctured in the muscles of the thigh, with a poisoned dart, from Banjoo-wangee. During the first hour, it was little affected by the wound. In about two hours it appeared drowsy, and had slight shiverings ; it continued drooping and quiet till twenty-four hours after the puncture, when it died.

Experiment 15. Having obtained an arrow from the island of Boli, supposed to be armed with the oopas from Borneo, Dr Horsfield wounded a dog in the muscles of the thigh. He died in fifty-five minutes, with all the symptoms already noticed in the other cases, and the appearances, on dissection, were the same.

Experiment 16. Having moistened some of the oopas from the island of Borneo, and having rendered it somewhat fluid with cold water, Dr Horsfield applied a dart, and wounded a dog, in the usual manner. The first three minutes he appeared little affected by the wound; on the fifth, the drowsiness came on ; and, after the usual symptoms, he died in the fifteenth minute, after violent tremors, convulsions, and screaming. A creeping undulatory motion of the skin, after death, over the surface of the whole body, was observed in this and several other instances.

Experiment 17. This was made at Soorakarta, in March, 1812, with the poison of the antshar, collected at Banjoo-wangee, in July, 1806. A dog, of middling size, was wounded, in the usual manner, in the muscles of the thigh, with a dart that had been dipped into the poison, about twenty-four hours before, and, during the interval, had been exposed to the open air of a chamber. He died in the thirtieth minute. The dissection exhibited the usual phenomena.

Experiment 18. A dog, of middling size, was wounded in the muscles of the thigh, with a dart covered with the fresh prepared poison of tshittik. In two minutes he shewed symptoms of uneasiness, he appeared faint, and lay down; in three minutes and an half he was seized with convulsive twitchings of the extremities, was very restless, and his breathing became quick; these symptoms gradually increasing to the sixth minute, while he continued in a lying posture, as if exhausted. He then raised himself, extended his head, as if attempting to leap, but fell down; was seized with violent convulsions, attended by quick and interrupted breathing, to the ninth minute, when he died.

Experiment 19. A small dog was wounded, in the usual manner, in the muscles of the thigh, with the poison of the tshittik. He immediately placed himself in a drooping posture, his fore legs bent, as in kneeling; and thus he continued to the fifth minute, when trembling and convulsions came on, and he died quietly in the eleventh minute.

Experiment 20. A fowl, nearly full grown, was pierced through the muscles of the thigh, with an arrow armed with tshittik. After the first impression was over, it seemed insensible to the wound, for about one minute, walking round, and picking up grains, as usual. Near the second minute it became giddy, and it died in the ninth minute.

Experiment 21. A fowl was wounded with a dart poisoned with tshittik, in the back, near the left wing, the puncture extending towards the cavity of the thorax. In less than one minute, it shewed symptoms of uneasiness, and it died in the fourth minute.

Experiment 22. A fowl was wounded, in the usual manner, with an arrow covered with the oopas of tshittik, which had not been mixed with the spices employed in the preparation. On the fortieth second, it picked its breast violently, as if it felt an itching. In one minute it reeled round, fell down forwards, fluttered, and was seized with convulsions, which continued to the third minute, when it died.

Experiment 23. A fowl was wounded with a poisoned dart, two years after the preparation of the poison. It died two minutes after the puncture.

Experiment 24. A small portion of the bark of the tshittik was infused in alcohol. Having been macerated for a few days, it was exposed to the open air, for co-operation, and a small quantity of a beautiful brown shining resin was obtained. A dart was covered with a few grains of this, and a fowl wounded, in the usual manner. The first three minutes after the puncture, it remained quiet, and appeared drooping; in the fourth minute it reeled backwards, tottered, and its limbs were relaxed; in the sixth minute it appeared to be sleepy, but its drowsiness was frequently interrupted by twitchings and startings: in eight minutes it tottered, but soon became drowsy again; in twelve minutes it fell down, convulsed and trembling, but soon became quiet, and its breathing was quick; in the seventeenth minute it had occasional twitchings in the extremities, and was unable to stand erect; in the twentieth minute the drowsiness had considerably diminished; it rose, and supported itself, but tottered, in attempting to walk. From the thirtieth minute it began to revive; all the effects gradually went off; and, in the sixtieth minute, it was apparently well.

Experiment 25. A dog, of a middling size, was wounded in the muscles of the thigh, with a dart, which, having been dipped into the oopas, collected in Blambangan six years previous, was exposed half an hour to the open air, to give the poison time to dry. He died, in violent convulsions, in the ninth minute. Dissection shewed similar appearances to those exhibited in the former cases.

Experiment 26. To a nearly full-grown dog, about half the quantity of poison generally adhering to a dart was given, in a little boiled rice. During the first ten minutes he remained quiet, and appeared a little drowsy; in the fourteenth minute he could with difficulty support himself erect, and indicated symptoms of pain; he shewed some disposition to vomit, and extended his jaws; in twenty-eight minutes he extended his hind legs spasmodically; in thirty-one minutes he had violent spasms over his whole frame; in thirty-seven minutes he stood, breathing hastily, and his abdomen appeared uneasy; in thirty-nine minutes he had spasmodic extensions of his extremities, which lasted half a minute, when he became quiet; but, being faint, supported himself against a wall; in forty-six minutes he started up, convulsed; in forty-eight minutes he appeared oppressed in the head, and drowsy; in fifty-four minutes he started up suddenly; in sixty minutes he appeared oppressed and drowsy; in sixty-one minutes he fell back, in violent convulsions, his extremities strongly contracted by spasms, after which he became calm; in the sixty-third minute, being roused, and attempting to walk, he fell backwards, with violent spasms and convulsions; in sixty-five minutes, having raised himself with difficulty, he stood, with his extremities far extended, and his muscles in a state of spasmodic contraction; in sixty-seven minutes he fell down, head foremost, violently convulsed, his breathing became interrupted; and, in the sixty-ninth minute, he died. On opening the abdomen, several ounces of a clear serous fluid, mixed with streaks of newly coagulated blood, were found effused in the cavity. The vessels of the external coats of the stomach, of the intestines, and mesentery, were in the highest possible degree inflamed, and distended beyond their natural size, having evidently been acted on by the most violent force. The stomach being opened, was found empty; its internal coat was corrugated, and covered with frothy mucus, in which were found the remains of the poison, a dark yellow fluid, with some grains of the rice in which it was conveyed. In the thorax, the lungs were still florid, the venæ cavæ much distended, the aorta nearly empty; being punctured, the blood flowed out, of a dark hue. On exposing the brain to view, the dura mater was nearly natural, only the larger vessels were somewhat more distended than usual. The vessels of the brain itself indicated a slight degree of inflammation.

In the above experiments, the poison was always applied by a pointed arrow, or dart, made of bamboo, with a spear-shaped extremity, about an inch long, and a line and a half broad, near the middle of its length. The poison appeared most active after having adhered twenty-four hours to the weapon. If applied in a fluid state, it does not enter the wound in a sufficient quantity to produce its effects; but, in thrusting the dart through the muscles, the poison separates itself from it, and adheres externally to the integuments. The rapidity of the effect of the oopas of the antshar, depends much on the size of the vessels wounded, and on the quantity of poison carried into the circulation. The poison, from different parts of the island, has been found nearly equal in activity. The oopas appears to affect different quadrupeds with nearly equal force, proportionate, in some degree, to their size and disposition. A mouse died in ten minutes; a buffalo in two hours and ten minutes. The quantity of the poison introduced into the buffalo, was hardly equal to that thrown into the system of the lesser animals experimented on, the dart having fallen from the wound, before a sufficient quantity had been taken into the circulation to produce a rapid effect. Mr Leschenaut de la Tour stabbed a buffalo, a number of times successively, with a common Javanese pike, largely covered with the poison of the tshittik, without very sensibly affecting the animal. It is necessary that the poisoned point should remain in the wound for some little time, to allow the poison to take effect. The natives of Macassar, Borneo, and the eastern islands, use this poison on an arrow of bamboo, with a shark's tooth at the point of it, which they throw from a blow-pipe, or sompit.

The simple unprepared sap is rendered equally, or perhaps more active, by being mixed with the extract of tobacco, or stramonium, instead of the spices used in preparing the oopas. Even the pure juice, unmixed and unprepared, appears to act with as much force as that prepared according to the manner of the Javanese of Blambangan, as appears by the fifth and tenth experiments.

Fowls seem to have a peculiar capacity to resist the effects of the poison. In the fourteenth experiment, a fowl did not die till twenty-four hours after the wound; and others have recovered, after being partially affected.

The operation of the poison made from the tshittik is far more violent and rapid than that made from the antshar, and it affects the animal system in a different manner: while the antshar acts chiefly on the stomach and alimentary canal, the respiration and circulation, the tshittik is determined to the brain and nervous system. After the previous symptoms of faintness, drowsiness, and slight convulsions, it acts by a sudden impulse, which, like a violent apoplexy, prostrates at once the whole nervous system. The tshittik poison affects fowls in a much more violent manner than the antshar. In young fowls death has frequently occurred in the space of a minute after the puncture with a poisoned dart. The simple unmixed decoction of the bark of the root of the tshittik is nearly as active as the poison prepared by the process so fully detailed.

The twenty-fourth experiment shews plainly that the resinous portion of the bark is by no means so powerful as the particles soluble in water. The strength of the poison remains unimpaired for a number of years, if carefully preserved. Taken into the stomach of quadrupeds, also, the tshittik acts as a violent poison, but it requires about twice the period to produce the same effect as a wound. But the stomach of fowls can resist its operation; for, having mixed about double the quantity adhering to a dart with the food of a fowl, it consumed it without shewing any marks of indisposition. The poison of the antshar does by no means act so violently, when given internally, to quadrupeds, as that of the tshittik. Dr Horsfield gave it to a dog; it produced at first nearly the same symptoms as a puncture,—oppression of the head, twitchings, faintness, laborious respiration, violent contraction of the pectoral and abdominal muscles, an increased flow of saliva, vomiting, great restlessness and agony, &c. which continued nearly two hours; but after the complete evacuation of the stomach by vomiting, the animal recovered. Rumphius goes so far as to assert that a small quantity may be taken internally as a medicine. In speaking of the qualities of the *Arbor toxicaria*, he says, the crude and unmixed *ipo* is an antidote to the bite of venomous fishes and insects; also, that a person affected with an irruption of the skin, may take a small pill of the oopas, which will attract all impurities from the intestines, and carry them off.

The only credible information as to the operation of the antshar on the human system, is contained in the work of Rumphius, who had an opportunity of personally observing the effects of the poisoned darts or arrows as they were used by the natives of Macassar, in their attack on Amboyna in the year 1650. These were also employed by the inhabitants of Celebes, in their former wars with the Dutch. Speaking of this operation, he says, the poison touching the warm blood, is instantly carried through the whole body, so that it may be felt in all the veins, and causes an excessive burning, and violent turning in the head, which is followed by fainting and death. The poison, according to the same author, possesses different degrees of violence, according to its age and different degrees of preservation. The most powerful is called *Oopas radja*, and its effects are considered as incurable; the other kinds are distributed among the soldiers on going to war. After having proved mortal to many of the Dutch soldiers in Amboyna and Macassar, they finally discovered an almost infallible remedy in the root of the *Crinum Asiaticum*, (called by Rumphius, *Radix toxicaria*,) which, if timely applied, counteracted by its violent emetic effect the force of the oopas.

From the experiments on different animals above related, we may form an analogous estimate of its probable effects on man; but, so far as evidence goes, an intelligent Javanese at Banjoo-wangee informed Dr Horsfield, that an inhabitant of that district was wounded in the fore arm, near the articulation of the elbow, in a clandestine manner, by an arrow thrown from a blow-pipe. In about fifteen minutes he became drowsy, after which he was seized with vomiting, became delirious, and in less than half an hour he died.

As a contrast to these deadly poisons, even to name which makes the heart sink, we may mention another tree of a very opposite description, the *Sapota galactodendrum*, or Cow Tree, which is found on the road from Ourmase to the north-west of Marsory, on the northern declivities of the Andes. This appears to be one of the most curious, as well as useful, vegetable productions of the equinoctial regions,—a tree which gives a kind of milk entirely analogous to that of the cow. Mr Humboldt informs us that he has seen it used for every domestic purpose. " On the barren declivity of a rock," says he, " grows a tree whose leaves are dry and coriaceous. Its thick ligneous roots scarcely enter the rock ; for several months of the year rain scarcely enters its fan-shaped leaves. The branches appear dry and dead. But when an incision is made in the trunk, a sweet and nutricious milk flows from it. It is at the rising of the sun that the vegetable liquid flows most abundantly. Then the natives and Negroes are seen to come from all parts, provided with vessels, to receive the milk, which becomes yellow, and thickens at the surface. Some empty their vessels under the same tree ; others carry them to their children. It is like a shepherd distributing to his family the milk of his flock."

This vegetable milk possesses all the physical properties of the milk of animals ; only it is a little thicker, and mixes easily with water. When boiled it does not coagulate, but a thick yellow pellicle is formed on the surface. Acids do not form with this milk any coagulum, as with that of the cow. When left to the contact of air, it is altered, and acquires an unpleasant smell similar to that of sour milk ; and a pellicle is formed on the surface, which, triturated with caustic potash, exhales ammonia. If some drops of an acid are added to this milk, it may be exposed to the air for a long time without any alteration. Kept in a bottle it does not decompose, but becomes only thicker ; and by adding a little water at any time, it regains all its properties. On the fire it presents the same phenomena as cow's milk ; the pellicle formed on the surface prevents the expansion of aqueous vapours ; and if the evaporation is carried on for a long time, drops of oil are formed, which increase in proportion as the water evaporates, until they produce an oily liquid; in which swims a fibrous substance, which dries and contracts with the increase of the temperature of the oily liquor; then it exhales a smell very similar to that of meat fried in oil. It appears from the experiments of Rivero and Boussingault, that the milk of the cow tree contains wax, fibrin, a little sugar, the salt of magnesia—certainly not the acetate—and a colouring matter. It contains no albumen, nor curd, nor catechu.

That I may connect this little biographical history of trees with the principal subject of my book, I shall conclude it with an account of three celebrated trees from New Forest, in Hampshire.

The first I shall mention, is that famous tree, against which the arrow of Sir Walter Tyrrel glanced, which killed William Rufus.

Leland tells us, and Camden* from him, that the death of Rufus happened at a place in New Forest, called Througham, where a chapel was erected to his memory. But I meet with no place of the name of Througham in New Forest, and neither the remains nor the remembrance of any chapel. It is probable, that Througham might be what is now called Fritham, where the tradition of the country seems to have fixed the spot, with more credibility than the tree. The chapel might only have been some little temporary oratory, which, having never been endowed, might speedily have fallen to decay: but the tree, it is probable, would be noticed at the time by every body who lived near it, and by strangers who came to see it; and it is as probable, that it could never be forgotten afterwards. They who think a tree insufficient to record a fact of so ancient a date, may be reminded that seven hundred years (and it is not more since the death of Rufus) make no extraordinary period in the existence of an oak. About fifty years ago, however, this tree became so decayed and mutilated, that, in all probability, the spot would have been forgotten, if some other memorial had not been raised. Before the stump therefore was eradicated, a triangular stone was erected by the late Lord Delaware, who lived in one of the neighbour lodges; on the three sides of which stone the following inscriptions are engraven:

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* See Camden's *Account of New Forest.*

I.

Here stood the oak tree, on which an arrow, shot by Sir Walter Tyrrel at a stag, glanced, and struck King William II, surnamed Rufus, in the breast, of which stroke he instantly died, on the second of August, 1100.

II.

King William II. being thus slain, was laid on a cart belonging to one Purkess, and drawn from hence to Winchester, and buried in the Cathedral church of that city.

III.

That the spot, where an event so memorable happened, might not hereafter be unknown, this stone was set up by John Lord Delaware, who has seen the tree growing in this place.

Lord Delaware asserts plainly, that he had seen the oak tree; and as he lived much on the spot, he had probably other grounds for the assertion, besides the tradition of the country. That matter, however, rests on his authority.

The next tree I shall exhibit from New Forest, is the Groaning Tree of Badesley, a village about two miles from Lymington. The history of the groaning tree is this: About forty years ago, a cottager, who lived near the centre of the village, heard frequently a strange noise behind his house, like that of a person in extreme agony. Soon after, it caught the attention of his wife, who was then confined to her bed. She was a timorous woman, and being greatly alarmed, her husband endeavoured to persuade her that the noise she heard was only the bellowing of the stags in the forest. By degrees, however, the neighbours on all sides heard it, and the thing began to be much talked of. It was by this time plainly discovered, that the groaning noise proceeded from an elm, which grew at the end of the garden. It was a young vigorous tree, and to all appearance perfectly sound.

In a few weeks the fame of the Groaning Tree was spread far and wide, and people from all parts flocked to hear it. Among others, it attracted the curiosity of the late Prince and Princess of Wales, who resided at that time, for the advantage of a sea-bath, at Pilewell, the seat of Sir James Worsley, which stood within a quarter of a mile of the Groaning Tree.

Though the country people assigned many superstitious causes for this strange phenomenon, the naturalist could assign no physical one that was in any degree satisfactory. Some thought it was owing to the twisting and friction of the roots; others thought it proceeded from water, which had collected in the body of the tree, or perhaps from pent air: but no cause that was alleged appeared equal to the effect. In the meantime, the tree did not always groan, sometimes disappointing its visitants: yet no cause could be assigned for its temporary cessations, either from seasons or weather. If any difference was observed, it was thought to groan least when the weather was wet, and most when it was clear and frosty; but the sound at all times seemed to arise from the root.

Thus the Groaning Tree continued an object of astonishment, during the space of eighteen or twenty months, to all the country around; and for the information of distant parts a pamphlet was drawn up, containing a particular account of all the circumstances relating to it.

At length, the owner of it, a gentleman of the name of Forbes, making too rash an experiment to discover the cause, bored a hole in its trunk. After this it never groaned. It was then rooted up, with a farther view to make a discovery; but still nothing appeared which led to any investigation of the cause. It was universally, however, believed, that there was no trick in the affair, but that some natural cause really existed, though never understood.

The last celebrated tree, which I shall present to the reader from New Forest, is the Cadenham Oak, which buds every year in the depth of winter. Cadenham is a village, about three miles from Lyndhurst on the Salisbury road.

Having often heard of this oak, I took a ride to see it on the 29th of December, 1781. It was pointed out to me among several other oaks, surrounded by a little forest stream, winding round a knoll, on which they stood. It is a tall straight plant of no great age, and apparently vigorous, except that its top has been injured, from which several branches issue in the form of pollard shoots. It was entirely bare of leaves, as far as I could discern, when I saw it, and undistinguishable from the other oaks in its neighbourhood; except that its bark seemed rather smoother, occasioned, I apprehended, only by frequent climbing.

Having had the account of its early budding confirmed on the spot, I engaged one Michael Lawrence, who kept the White Hart, a small alehouse in the neighbourhood, to send me some of the leaves to Vicar's Hill, as soon as they should appear. The man, who had not the least doubt about the matter, kept his word, and sent me several twigs, on the morning of the fifth of January, 1782, a few hours after they had been gathered. The leaves were fairly expanded, and about an inch in length. From some of the buds two leaves had unsheathed themselves, but in general only one.

Through what power in Nature this strange premature vegetation is occasioned, I believe no naturalist can explain. I sent some of the leaves to one of the ablest botanists we have, Mr Lightfoot, author of the *Flora Scotica*, and was in hopes of hearing something satisfactory on the subject. But he is one of those philosophers who is not ashamed of ignorance where attempts at knowledge are mere conjecture. He assured me, that he neither could account for it in any way, nor did he know of any other instance of premature vegetation, except the Glastonbury Thorn.

The philosophers of the forest, in the meantime, account for the thing at once, through the influence of old Christmas day, universally believing that the oak buds on that day, and that only. The same opinion is held with regard to the Glastonbury Thorn, by the common people of the west of England. But, without doubt, the germination there is gradual, and forwarded or retarded by the mildness or severity of the weather. One of its progeny, which grew in the gardens of the Duchess Dowager of Portland, at Bulstrode, had its flower buds perfectly formed so early as the 21st of December, 1781, which is fifteen days earlier than it ought to flower, according to the vulgar prejudice.*

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* In the *Salisbury Journal*, January 10th, 1786, the following paragraph appeared:

In consequence of a report that has prevailed in this country for upwards of two centuries, and which by many has been almost considered as a matter of faith, that the oak at Cadenham, in the New Forest, shoots forth leaves on every old Christmas day, and that no leaf is ever to be seen on it, either before or after that day, during the winter, a lady, who is now on a visit in this city, and who is attentively curious in every thing relative to art or nature, made a journey to Cadenham on Monday, the third instant, purposely to inquire, on the spot, about the production of this famous tree. On her arrival near it, the usual guide was ready to attend her; but on his being desired to climb the oak, and to search whether there were any leaves then on it, he said it would be to no purpose, but that if she would come on the Wednesday following, (Christmas day,) she might certainly see thousands. However, he was prevailed on to ascend, and on the first branch which he gathered appeared several fair new leaves, fresh sprouted from the buds, and nearly an inch and a half in length. It may be imagined, that the guide was more amazed at this premature production than the lady; for so strong was his belief in the truth of the whole tradition, that he would have pledged his life that not a leaf was to have been discovered on any part of the tree before the usual hour.

But though the superstitious part of this ancient legend is hence confuted, yet it must be allowed that there is something very uncommon and curious in an oak's constantly shooting forth leaves at this unseasonable time of the year, and that the cause of it well deserves the philosophical attention of the botanist. In some years there is no doubt but that this oak may shew its first leaves on the Christmas morning, as probably as on a few days before; and this perhaps was the case in the last year, when a gentleman of this neighbourhood, a nice and critical observer, strictly examined the branches, not only on the Christmas morn, but also on the day prior to it. On the first day not a leaf was to be found, but on the following every branch had its complement, though they were then but just shooting from the buds, none of them being more than a quarter of an inch long. The latter part of the story may easily be

This early spring, however, of the Cadenham Oak is of very short duration. The buds, after unfolding themselves, make no farther progress, but immediately shrink from the season, and die. The tree continues torpid, like other deciduous trees, during the remainder of the winter, and vegetates again in the spring, at the usual season. I have seen it in full leaf in the middle of summer, when it appeared, both in its form and foliage, exactly like other oaks.

I have been informed that another tree, with the same property of early germination, has lately been found near the spot where Rufus's monument stands. If this be the case, it seems in some degree to authenticate the account which Camden * gives us of the scene of that Prince's death: for he speaks of the premature vegetation of that very tree, on which the arrow of Tyrrel glanced; and the tree I now speak of, if it really exist, though I have no sufficient authority for it, might have been a descendant of the old oak, and have inherited its virtues.

It is very probable, however, there may be other oaks in the forest, which may likewise have the property of early germination. I have heard it often suspected, that people gather buds from other trees, and carry them on old Christmas day to the oak at Cadenham, from whence they pretended to pluck them. For that tree is in such repute, and resorted to annually by so many visitants, that I think it could not easily supply all its votaries without some foreign contributions. Some have accounted for this phenomenon by supposing that leaves have been preserved over the year by being steeped in vinegar. But I am well satisfied this is not the case. Mr Lightfoot, to whom I sent the leaves, had no such suspicion.

We shall take upon us to add a little to Mr Gilpin's catalogue of remarkable trees, from such sources as we can reach; and we must imitate him in doing so without any

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credited, that no leaves are to be seen on it after Christmas day, as large parties yearly assemble about the oak on that morning, and regularly strip every appearance of a leaf from it,

* See Camden's *Account of New Forest.*

particular attention to arrangement, which indeed cannot be reasonably looked for in any such promiscuous gleaning as ours.

The trees found by Captain Cook, of such gigantic size, in California, were probably the *Pinus Lambertiana*, of which we have aleady spoken.

"I read of a cypress yet remaining," says old Evelyn, "somewhere in Persia, near an old sepulchre, whose stem is as large as five men can encompass, the boughs extending fifteen paces every way. This must needs be a very old tree, believed by my author to be little less than two thousand five hundred years of age. We read also of a cedar growing on the island of Cyprus, which was a hundred and thirty feet long, and eighteen in diameter."

Dr Brown of Norwich, in a letter to Evelyn, thus describes a lime tree growing at Depeham, in Norfolk. "The compass in the least part of the trunk, about two yards from the ground, is at least eight yards and a half; about the root, nigh the earth, sixteen yards; about half a yard above that, near twelve yards in circuit. The height, to the uppermost boughs, about thirty yards."

"To go no farther," says Evelyn, "than the parish of Ebsham, in Surrey, belonging to my brother, Richard Evelin, Esquire, there are elms now standing in good numbers, which will bear almost three foot square for more than forty foot in height." "Mine own hands measured a table, more than once, of about five foot in breadth, nine and a half in length, and six inches thick, all entire and clear. This, cut out of a tree felled by my father's order, was made a pastry board." "At the upper end of Rivelin stood a tree called the Lord's Oak, of twelve yards about."

"In Sheffield Park, anno 1646, stood above an hundred oak trees, worth £1000; and in the same park, Ralph Archdall cut a tree that was thirteen foot diameter at the kerf, or cutting place, near the root. In the same park, Mr Sittwell, with Jo. Magson, did chuse a tree, which, after it was cut, Samuel Staniforth, a keeper, and Edward Merphy, both on horseback, could not see over the tree one another's hat crowns. This tree was sold for £20. In the same park, near the old foord, is an oak tree, yet standing, of ten yards circumference." "In Worksopp Park, lyeth the boal of an oak tree, which is twenty-nine foot about, and would be found thirty if it could be justly measured. In the same park, a tree did stand that was, from bough-end to bough-end — that is, from the extreme ends of two opposite boughs — one hundred and eighty foot; which is witnessed by Joseph Magson and George Hall, and measured by them both.

"Then, because one hundred and eighty foot, or sixty yards, is the diameter, thirty yards will be the semidiameter; and by the former analogies—

$$113 \;.\; 355 \;::\; 60 \;.\; 188\tfrac{1}{2}$$

and

$$1 \;.\; 30 \;::\; 94\tfrac{1}{4} \;.\; 2827\tfrac{1}{2}$$

that is, the extent of ground upon which this tree perpendicularly drops, is above two thousand eight hundred and twenty-seven square yards, which is above half an acre of ground; and the assigning three square yards for a horse, there may nine hundred and forty-two," (or near a thousand cavalry,) "be well said to stand in this compass." This is a much more wonderful tree than the Shire Oak, about a mile from Worksopp Park, which Mr Gilpin notices, from Evelyn's account of it.

The oak called *Derwen cenbren yr Ellyll*, or the Hollow Oak, the haunt of demons, in which tradition tells us, that Howel Sele was immured by his rival, Owen Glyndwr, grew at Nannan, in Merionethshire. It was blown down on the night of the 27th of July, 1813. Most fortunately, the picturesque form of this magnificent wreck has been preserved to us by a sketch taken by Sir Richard Colt Hoare, Baronet, which has been beautifully etched by Cuitt. The girth was twenty-seven feet and a-half.

Baron Dillon tells us, in his *Travels*, that English elms, planted at Aranjuez, in Spain, by Charles V, and said to have been brought from England, were, above forty years ago, about six feet in diameter, and without any appearance of decay. Dr Plott, in his *Natural History of Staffordshire*, mentions a wych elm in that county which was found to be seventeen yards in circumference.

Professor Walker, of Edinburgh, in his catalogue of remarkable Scottish trees, mentions several very fine oaks. An oak at Lockwood, in Annandale, measured at six feet above the root, was fifteen feet girth, among a number of others which nearly approached the same size, standing not less than nine hundred feet above the level of the sea.—An oak at Blarquosh, in the parish of Strathblane, in Stirlingshire, the spread of the branches of which was ninety feet diameter, measured fifteen feet in girth at four feet from the ground.—An oak in the Marquis of Tweeddale's grounds, at Yester, in Haddingtonshire, at one foot from the ground, measures about fifteen feet five inches; and at six feet, it is about fourteen feet.—The tree called the King of the Wood, on the estate of Fernyhirst, near Jedburgh, is a beautiful tall straight oak of eighty feet in height. The girth of it is eighteen feet above the roots, and at fifteen feet it is eleven feet six inches in circumference, and it goes on tapering gradually for nearly three-fourths of its height. And the Capon Tree,* which grows near it, and which is much more picturesque in form, measures twenty-one feet above the roots. It speedily divides itself into two branches, which measure respectively eleven feet six inches, and fourteen feet. It is upwards of seventy-feet high, and covers an area of ninety-two feet in diameter. These two trees are considered as remnants of the great forest of Jedwood.—An oak at Barjarg, in Nithsdale, measured above the roots seventeen feet; at the height of sixteen feet, it girthed eleven feet eleven inches. At thirty-two feet high it measured eleven feet nine inches; and at the height of forty-six feet it was six feet eight inches round.—An oak upon Inch Marin, in Loch Lomond, which stands near the middle of the island, measured, in 1784, eighteen feet one inch. This tree is remarkable for its fine expanded head.—The measurement of the famous Wallace Oak, in the Torwood in Stirlingshire, taken in 1771, was twenty-two feet. There is another Wallace oak at Elderslee, near the place where Wallace was born. It is a very noble tree, twenty-one feet in circumference at the ground, and thirteen feet two inches at five feet from the ground. It is sixty-seven feet high, and its branches extend forty-five feet east, thirty-six west, thirty south, and twenty-five north, covering altogether nineteen English poles of ground. Wallace and three hundred of his men hid themselves from the English among the branches of this tree, which was then in full leaf.—In a very old oak wood, on the north side of Loch Arkeg, in Lochaber, there are, or were lately, many trees from ten to fourteen feet in girth, and one was there measured which was found to be, at four feet above the root, twenty-four feet six inches.

We had occasion some years ago to visit a very romantic spot at the upper end of Loch Garry, in Inverness-shire. There we found the wrecks of a magnificent oak forest, not, as is commonly the case, imbedded in peat earth, but lying on the surface of the solid ground, as trees

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* The name is supposed to be a corruption of *kepping*, a Scotch word for *meeting*, and it is also called the Trysting Tree.

SCOTCH FIRS

THE WALLACE OAK

would do that had been newly thrown down. Many years must have elapsed since these trees were laid prostrate, for there is now a very old and beautiful birch wood, growing on the ground they formerly occupied. We measured one of these trunks, and found it to be twenty-three feet long, without a branch, sixteen feet round the root, and eleven feet in circumference towards the smaller end under the fork. With the exception of an inch or two of the external part, which was weather wasted, it appeared perfectly fresh. It lay within a yard of the stock whereon it grew; but it was not easy to determine, from appearances, how it was severed from it. The stock was worn away in the centre, and hollowed out so that it now encircles a large birch tree of more than a foot diameter, self sown, and growing vigorously within the ancient shell of the stock. We took an opportunity of noticing this in the article Inverness-shire, in the Edinburgh Encyclopædia, and we also there recorded a still more extraordinary fact, also consistent with our own knowledge. Some very large masses of oak were brought up by the dredging machine employed in deepening the line of the Caledonian Canal, in Loch Dochfour, from under sixteen feet of gravel which lay at the bottom of the lake. One of these fragments measured thirty feet round; and though it manifestly appeared to be only a small portion of the original tree, it was calculated to contain about two hundred and twenty cubic feet. It was black as ebony, and perfectly fresh and hard. Besides these, we have had occasion to dig up many enormous oak trees, perfectly fresh, out of mosses in very high situations in Scotland, where such trees could hardly be expected to grow now-a-days. We have had the experience of making the wood into beautiful furniture. Although there are fine thriving oaks in Scotland at this moment, yet few of them approach the dimensions of these fragments of the olden time. But even these ancient trees, large as they are, cannot enter into competition with the oaks of the south, such as those we have noticed from Evelyn; and the English sylvan remains of former times are often wonderful. An oak, dug out of Ratfield Bog, was one hundred and twenty feet in length, twelve in diameter at the base, ten in the middle, and six at the smaller end where broken off.

We are obliged to Mr Strutt's magnificent work, *Sylva Britannica*, for the measurements of some of the following oak trees.

The Swilcar Oak, in Needwood forest, in Staffordshire, as girthed by a labouring man, about 1771, was found to be nineteen feet at six feet from the ground; and when measured by the same individual in 1825, it was twenty-one feet four and a half inches in girth at the same height from the ground. This shews that the tree is slowly increasing, having gained two feet four inches in fifty-four years, and yet it is known, by historical documents, to be six hundred years old. Though certainly in decay, it is still a fine, shapely, characteristic tree.

The Squitchbank Oak, at Bagot's Park, four miles from Blithfield, near Litchfield, in Staffordshire, is a majestic tree, full of vigour and beauty. Its circumference at the roots is forty-three feet, at five feet high it is twenty-one feet nine inches. It is thirty-three feet high to the crown, and twenty-eight feet above, in all sixty-one feet. The butt contains six hundred and sixty feet nine inches of timber, the principal limb seventy-nine feet six inches, and the other fourteen limbs, two hundred and seventy-two feet seven inches, — in all, ten hundred and twelve feet ten inches of solid timber.

The Beggar's Oak, in Bagot's Park, is twenty feet in girth at five feet from the ground. The roots rise above the ground in a very extraordinary manner, so as to furnish a natural seat for the beggars chancing to pass along the pathway near it, and the circumference taken around there, is sixty-eight feet. The branches extend forty-eight feet from the trunk in every direction. It contains eight hundred and seventy-seven cubic feet of timber, which, including the bark, would have produced, according to a price offered for it in 1812, the sum of £202, 14s. 9d. This tree is quite fresh, vigorous, and beautiful.

The Majesty Oak, at Fredville, in the parish of Nonnington, in Kent, at eight feet from the ground, exceeds twenty-eight feet in girth, and it contains above fourteen hundred feet of timber. There are a few stag-horned branches on it. There are two other oaks quite entire, standing a little way from this tree, called Stately, and Beauty. These are well named. The former is a singularly noble tree, with a clean straight stem seventy feet high, eighteen feet girth at four feet from the ground, and containing above five hundred feet of timber. Beauty is as graceful as her name implies: at four feet from the ground, she is sixteen feet in girth; and the contents of the tree are nearly the same as those of the other.

The Great Oak of Panshanger, in Hertfordshire, which has had this appellation for more than a century, is only now approaching its prime, for it is yet unscathed by storms, and has all the vigour of the most perfect tree. At three feet from the ground, it is nineteen feet in circumference, and it contains one thousand feet of timber.

The Salcey Forest Oak, in Northamptonshire, has its trunk completely worn out into an arch. In 1794, when the hollow part was nearly cased in, the tree measured forty-six feet ten inches in circumference at the bottom, where there are no spars. At one yard from the ground, it was twenty-four feet seven inches in girth, at two yards, eighteen feet six inches, and at three yards, sixteen feet two inches. The whole height of the tree itself, in its broken state, was thirty-nine feet three inches. This is one of the most picturesque sylvan ruins which can be met with any where.

The Chandos Oak, in the pleasure grounds of Michendar House, at Southgate, is one of the most beautiful trees existing, being at this moment in the most perfect health and vigour. At one foot from the ground, its girth is eighteen feet three inches, at three feet it is fifteen feet nine inches. The stem is eight feet high to the branches, and immediately under the branches it is seventeen in circumference. It is sixty feet high, and the diameter of the circle which its boughs cover, is one hundred and eighteen feet.

The Shelton Oak stands about a mile and a half from Shrewsbury, where the Pool road diverges from that which leads to Oswestry. Owen Glendower mounted this tree before the battle of Shrewsbury, fought on the 21st June, 1403, between Henry IV. and Harry Percy; and observing the great force of the king, and that the old Earl of Northumberland had not joined his son, he descended, and immediately retreated with his force to Oswestry. In a document written by the ancestor of Richard Hill Waring, Esquire, having the date of 1543, only one hundred and forty years after the battle of Shrewsbury, it is called "The Grete Oke." The trunk of this tree is hollow, so that it can contain about a dozen people. It divides into two enormous limbs, both of which have been fractured. It is thirty-seven feet in circumference at a foot and a half from the ground, and at five feet from the ground it is twenty-six feet.

The Bounds Park Oak, near Tunbridge, is remarkable for the elegance of its form and the richness of its foliage. Its age is not known, but it appears to be in its prime. At two feet above the ground it is twenty-two feet in circumference. Its stem is straight and uniform, and it throws out a great number of large limbs, and bears a grand head. Immediately below the limbs, its girth is sixteen feet nine inches. It is sixty-nine feet high, the extent of its boughs, from east to west, is one hundred and fourteen feet, and its solid contents are eight hundred and ninety-two feet.

The Moccas Park Oak, on the banks of the Wye, in Herefordshire, is thirty-six feet in girth at three feet from the ground. It is hollow in the stem, but its head, though much injured by time and storms, is bushy and leafy.

The Wotton Park Oak is a magnificent, picturesque, and characteristic tree. At one foot from the ground it measures twenty-five feet in circumference, and at the height of twelve feet from the ground, it divides into four large limbs, the largest of which is fifteen feet in girth. It is ninety feet high, and covers an area of one hundred and fifty feet in diameter.

Queen Elizabeth's Oak, at Huntingfield in Suffolk, measures thirty-four feet in girth at five feet from the ground. It is now above five hundred and sixty years old. Huntingfield, for a considerable period after the Norman conquest, was the estate and residence of an eminent family of that name, one of whom founded Mendham Priory, in Stephen's reign. It afterwards descended to the De la Poles, Earls of Suffolk; and, in the time of Queen Elizabeth, was the property of Henry Lord Hunsdon. Queen Elizabeth is said to have been entertained at the old mansion by Lord Hunsdon, and to have enjoyed the pleasures of the chase, in rural majesty. The approach to the house was over an arm of the river Blithe, which waters the park, and then through three great square courts. A gallery was carried along the whole length of the building, and opening upon a balcony over the porch, gave an air of grandeur and variety to the front. The great hall was built round six straight massy oaks, which originally upheld the roof, as they grew; and upon these the foresters and yeomen of the guard used to hang their nets, crossbows, hunting poles, and other implements of the chase. This gives us a most curious picture of the romantic notions of these olden times. In later years, the roots being decayed, the shafts were sawn off at the bottom, and the roof was supported either by irregular logs of wood, or by masonry; and part of the long gallery, where the Queen and her attendants used to divert themselves, was converted into a cheese chamber. Elizabeth is said to have been much pleased with the retirement of this park, filled with tall and massy timber trees, but particularly with the oak, which ever afterwards bore the appellation of the Queen's Oak. It stood about two bow shots from the old romantic hall; and tradition records, that Elizabeth shot a buck, with her own royal hand, from this tree. It is thus described by Davy, in his letters, about 1773:—"It is still in some degree of vigour, though some of its boughs are broken off, and those which remain are approaching to a total decay, as well as its vast trunk. The principal arm, 'now bald with dry antiquity,' shoots up to a great height above the leafage; and, being hollow and truncated at top, with several cracks, resembling loop-holes, through which the light shines into its cavity, it gives us the idea of the winding staircase in a lofty Gothic tower, which, detached from the ruins of some venerable pile, hangs tottering to its fall, and affects the mind of the beholder after the same manner, by its greatness and sublimity." The upper part of the main stem of the tree is now considerably shortened by age and accidents. The limbs, however, are bold and picturesque; and it still carries many boughs, and enough of foliage, to constitute a considerable head. The trunk thickens as it rises; so that, at seven feet from the ground, it measures about thirty-three feet in circumference.

Another, called the Duke's Walking Stick, at the same place, is in girth, at the ground, twenty-one feet; at one yard high, fourteen feet; stem, seventy feet six inches; total height, one hundred and eleven feet; and solidity, four hundred and forty feet. There are also here an oak and an ash growing together. Girth of both at the ground, thirty-six feet; of the oak at one yard high, eighteen feet; at two yards, fifteen feet four inches; and height, ninety-two feet. The ash is comparatively very small. It leaves the oak at a small distance above the ground, and unites again at eight or nine feet high, then branches out, and towers along with it for some thirty or forty feet. Taken together, they form a very interesting and uncommon picture.

Sir Philip Sidney's Oak, at Penhurst, is above twenty-two feet in girth. Its stem is hollow, but its limbs are numerous, and of great magnitude; and although those towards the top are beginning to grow bare, yet the foliage on the whole is sufficient to give it a noble and picturesque appearance.

The King's Oak, in Savernake Forest, so remarkable for its wild woodland scenery, spreads its branches over a diameter of one hundred and eighty feet, and is twenty-four feet in girth. The trunk is quite hollow; and, a short way upwards, it divides into a number of bold sweeping limbs, of great size, which bear a sufficient quantity of leaves, and which have as yet shewn no stag-horn branches. It is a very picturesque object, without being uncouth.

Mr South mentions another tree, called the Bull Oak, on the Oakley farm, the interior of which has held twenty people. It is supposed to be near one thousand years old. It measures, in the middle, twenty-nine feet three inches; round the stumps of the old arms, thirty-one feet six; and twenty-six feet in circumference, at between two and three feet from the ground.

The Greendale Oak, at Welbeck, is said to be seven hundred years old. Girth of the trunk above the arch, thirty-five feet; height of the arch, ten feet three inches; width of the arch, six feet three inches; and height of the tree to the top of the live stump, fifty-four feet.

Mr South, in his letters, gives us the dimensions of an oak felled in Langley Wood, on the verge of the New Forest, in the year 1758, with some very interesting particulars, as to the mode in which it was cut. "This tree," says he, (*Bath Society Papers*, vol. vi. page 8,) "stood singly in the wood, and extended its massive branches near forty feet each way. Its head was all knees and crooks, aptly suited to naval purposes; its bole, or shaft, was short, not exceeding twenty feet in length, but it was full six feet in diameter at the top, and perfectly sound. It was felled in an unusual manner, for the preservation of its crooks, which were cut off one by one, whilst the tree was standing, and lowered by tackles, to prevent their breaking. The two largest arms were sawed off at such distances from the bole, as to make first-rate knees; scaffolds were then erected, and two pit saws being braced together, the body was first cut across, half through, at the bottom, and then sawed down the middle, perpendicularly, between the two stumps of arms that had been left, at the end of one of which stood a perpendicular bough, bigger than most timber trees. To prevent this being injured, a bed was made, of some hundreds of faggots, to catch it when it fell. This half was so weighty, that it crushed a new timber carriage all to pieces the instant it was lodged upon it; and, none in the country being found strong enough, the King's carriage was sent purposely from

Portsmouth, to convey it to the dock-yard. It was drawn in general by twelve horses, assisted occasionally by eight others. The drivers were obliged to find the most level ground; and instead of drawing it to Portsmouth, as was intended, made the shortest way, across the forest, to the sea side. This tree was sold, in the first place, for £40; was bought of that purchaser, by a timber merchant, for £100, who is supposed to have cleared £100 more, which he might very well do, for the contents amounted to thirty-two loads of hewed timber, which, at half-a-crown a-foot—no unusual price for naval crooks—amounts to £200 precisely, besides faggots, &c. sufficient to defray the expenses. The breadth of the tree across, near the ground, where it was cut, was twelve feet; and it had above three hundred rings of annual growth."

At the same place are the Porters, two oaks so called from their formerly having had a gate between them. No. 1. measures in circumference, at the ground, thirty-eight feet; at a yard high, twenty-seven feet; at two yards, twenty-three feet; total height, ninety-eight feet six inches; and solidity, eight hundred and forty-eight feet! No. 2. in girth, at the surface, thirty-four feet; at one yard high, twenty-three feet; at two yards high, twenty feet; height, eighty-eight feet; and solidity, seven hundred and forty-four feet.

Gog and Magog, in Yardley Forest. Gog, the largest of these two oaks, is thirty-eight feet round at the roots, and twenty-eight feet, at three feet from the ground. It is fifty-eight feet in height, and contains one thousand six hundred and sixty-eight feet seven inches of solid timber. Magog is only forty-nine feet high; but his circumference is fifty-four feet four inches at the ground, and thirty-one feet three inches at three feet higher up. These two trees grow near each other; and although a good deal bared at the top by age, they are very picturesque. The Marquis of Northampton's estate, on which they stand, abounds with many magnificent sylvan specimens; and its scenery is hallowed by the shade of Cowper, who was fond of indulging his melancholy minstrel musings among the woodland scenery here.

The Bull Oak, in Wedgenock Park, Warwickshire, measured, in September, 1783, at one yard from the ground, thirty-four feet; at one foot from the ground, forty feet; and at six feet from the ground, thirty-seven feet in circumference. Height of the trunk, about thirteen feet. The inside was quite decayed; and a cow and a sheep had taken shelter in it at the time it was measured.

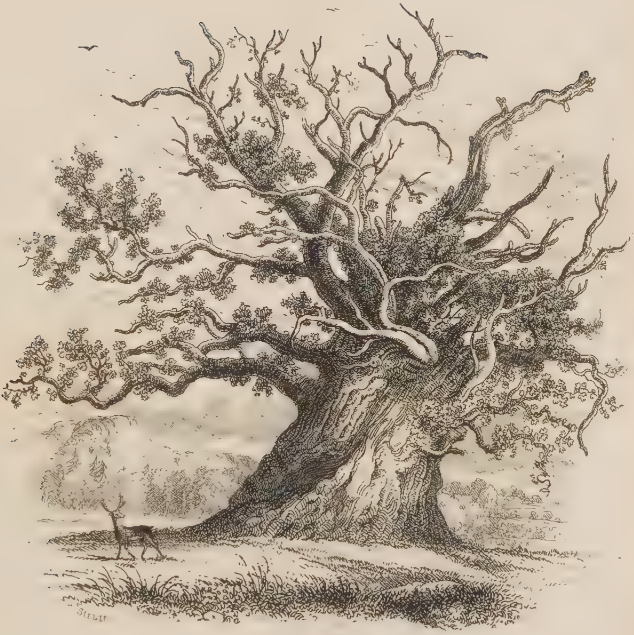
The Cowthorpe, or Coltsthorpe Oak, near Wetherby in Yorkshire, had its principal branch rent off by a storm in the year 1718, and it being accurately measured, was found to contain upwards of five tons of timber. Before this mutilation, its branches are said to have extended over half an acre of ground. At three feet from the ground this most gigantic of all trees measures sixteen yards, or forty-eight feet, and close at the ground it measures twenty-six yards, or seventy-eight feet, in girth! Its principal limb extends forty-eight feet from the trunk. This magnificent vegetable production is still in wonderful preservation, though its foliage be thin. It may well be called the King of the British Sylva, and proud, indeed, may we be of our king. Mr Strutt has figured this monarch of the woods in his splendid work, the *Sylva Britannica.*

The oaks at Barley, called the Twelve Apostles, stand in the lawn at Barley Lodge, in the New Forest. The largest of them is twenty-two and a half feet in circumference. They are all grouped together; and though they are a good deal stag-horned, they are grand objects, both collectively and singly.

There is a beautiful Scotch elm at Fountainhall, which, at three feet from the ground, measures ten feet in girth. Its head is grand, and covers an area of seventy feet in diameter.

The elms at Mongewell, in Oxfordshire, are also described and figured by Mr Strutt. They are a beautiful group, and in full vigour. The principal tree among them is seventy-nine feet high, fourteen in girth at three feet from the ground, sixty-five in extent of boughs, and contains two hundred and fifty-six feet of solid timber. Mr Strutt tells us, that the venerable Bishop of Durham, then in his ninetieth year, erected an urn in the midst of their shade, to the memory of two of his friends. The lines are classically beautiful:

> In this once favour'd walk, beneath these elms,
> Where thicken'd foliage, to the solar ray
> Impervious, sheds a venerable gloom,
> Oft in instructive converse we beguiled
> The fervid time, which each returning year
> To Friendship's call devoted. Such things *were;*
> But *are*, alas! no more.
>
> S. DUNELM.



THE COWTHORPE OAK

The Tutbury Wych Elm is also figured by Mr Strutt. Shaw, in his *History of Staffordshire*, thus mentions this tree:—" In the road leading from Tutbury to Rolleston is a very large and beautiful wych elm, the bole of which is remarkably straight, thick, and lofty, having eight noble branches, the size of common trees, which spread their umbrageous foliage luxuriantly around, forming a magnificent and graceful feature, both in the near and distant prospect." The trunk is twelve feet long, and at the height of five feet from the ground, it measures sixteen feet nine inches in circumference. The branches extend about forty or fifty feet on all sides of the tree; and it contains six hundred and eighty-nine cubic feet of timber. The site of this elm commands an interesting prospect of Tutbury Castle, intimately associated with the memory of " Time honoured Lancaster." It has begun to stag-horn at the extremities of some of the more important branches; but not more so than enough to give it a venerable and picturesque appearance; so that it is still in possession of all *the beauty* of age.

There are some very large wych elms at Pollock, in Renfrewshire, figured by Strutt. In 1802, the largest was ten feet ten inches in girth, at five feet from the ground; and in 1824, it measured eleven feet ten inches, at five feet from the ground; and eighteen feet one inch in girth, at the surface of the earth. Its height is eighty-eight feet; and it contains six hundred and sixty-nine feet of solid timber. It is near Crookstone Castle and the field of Langside.

A beautiful Scotch elm, at Hermandston, in Haddingtonshire, measures fourteen feet six inches in girth, at three feet from the ground; and eighteen feet nine inches in girth, at one foot above the roots.

The Chipstead Elm is particularly noticed, and beautifully figured, by Mr Strutt. It is an English elm, and stands on a rising ground in a retired part of the pleasure ground of George Polhill, Esq. of Chipstead Place in Kent, a descendant of the great John Hampden. It is sixty feet high, twenty feet in circumference at the root, and fifteen feet eight inches at three and a half feet from the ground; and it contains two hundred and sixty-eight feet of timber, notwithstanding its having lost some of its most important central limbs. It is a beautiful tree as to form, and its trunk is richly mantled with ivy. In the time of Henry V, the highroad from Rye to London passed close by it, and a fair was then held annually under its branches.

In 1754, a fine wych elm, by Bradley church in Suffolk, at five feet above the roots, measured twenty-five feet five and a half inches in girth. In 1767, this tree was twenty-six feet three inches. A hollow wych elm, by Stratton church, at four feet above the ground, measured twenty-nine feet six inches.

The best elm we have recorded as of Scottish growth, was that in the parish of Roxburghe in Teviotdale, called the Trysting Tree, which was measured in the year 1796, and found to be thirty feet in girth. The ruins of this noble tree still remain at the Friars, near the old castle of Roxburghe. Mr Smith of Kelso informs us, that the most plausible tradition regarding the origin of the name of the Trysting Tree is, that the Lairds of Cessford and Fernyhirst, with a number of Scottish gentry, assembled there, in 1547, to meet the Protector, Somerset, during his rough courtship, and to swear homage to the King of England. There can be no doubt that he was there; and this spot, which was near the old minorite friary, was certainly a very likely place for such an assemblage. It is said that on the memorable occasion when the Castle of Roxburghe was taken by stratagem by the Earl of Douglas, on the night of Shrovetide, in the year 1313, his men assembled under this tree, and there arrayed themselves in the skins of bullocks, and stealing quietly out upon the lawn, on hands and knees, they led the sentinels on the walls to believe that they were cattle grazing. A woman, seated on the wall, was singing to her child, a rude rhyme of these olden times:

> "Hush ye, hush ye, little pet, ye,
> Hush ye, hush ye, do not fret ye,
> The Black Douglas shall not get ye."

"You are not so sure of that," said a voice; and at the same time a heavy iron gauntleted hand was laid on her shoulder; and when she looked round, she beheld the very Black Douglas himself, a huge swarthy man, standing behind her; at the same time, another Scotsman was seen ascending the walls. A sentinel gave the alarm; and couching his lance, he rushed at the Scotsman, whose *nom de guerre* was Sym of the Ledehouse. Simon parried the thrust; and closing with the sentinel, struck him a deadly blow with his dagger. The rest of the Scots followed up, to assist

Douglas and Ledehouse; and the castle was taken. Many of the soldiers were put to death; but Douglas protected the woman and the child. The Trysting Tree was also famous, in later times, as the scene of much innocent pleasure. After the Reformation, and until the present house of Fleurs was built, in 1718, the family of Roxburghe made an occasional residence of the remains of the religious house at Friars, which was then called East Roxburghe. The gardens belonging to it were kept up, until the year 1780, when old Coles, who was butler to Duke John, ploughed them up, and destroyed some beautiful vestiges of antiquity. In these gardens there was a raised walk, called the Lovers' Walk, between two rows of old elms, forming a vista, which terminated with the Trysting Tree, whither the beaux and belles of these old times used to resort, to enjoy themselves, on a summer evening, and to eat the fruit, which was always sold during the absence of the family. Upon these occasions the gentlemen were often made to walk blindfolded in the alley; and if any one failed to grope his way from one end of it to the other, without diverging from the grass into either border, he was immediately fined in a treat of fruit. What a picture would Watteau have made of so admirable a subject! Many a courtship was brought to a happy termination at this antiquated Vauxhall.

Mr Strutt also describes and figures a very old elm, at Checquers, in Buckinghamshire, which is supposed to be the oldest elm in England, having been planted in the reign of King Stephen. Its enormous trunk is now nothing but a mere hollow shell, from which, however, two large limbs arise, that subdivide into a number of branches, and bear a large head of foliage. The stem is thirty-one feet in circumference.

Dr Plot gives an account of a wych elm in Staffordshire, which was fifty-one feet in circumference at the butt end.

The Crawley Elm stands in the village of Crawley, close by the road leading from London to Brighton. Mr Strutt has given us a very admirable representation of its truly picturesque form. The trunk, towards the base, is most fantastic, swelling out in great bumps, calculated to puzzle the most experienced phrenologist; and then shooting up above, to the height of seventy feet. The main stem, however, seems to have been broken off, at some very distant period; and the trunk of it is perforated all throughout. This very wonderful tree measures sixty-one feet in circumference at the ground! and the cavity within, which is shut in by a door, measures thirty-five feet in circumference, at two feet from the base.

The great ash at Woburn Abbey, in Bedfordshire, is twenty-three feet six inches in circumference at the ground, twenty feet at one foot above the ground, and fifteen feet three inches at three feet from the ground. It is ninety feet high, and the ground covered by its branches is one hundred and thirteen feet in diameter. One of the limbs is nine feet in girth; and the whole tree contains about eight hundred and seventy-two cubic feet of timber.

An ash at Castle Huntley, in the parish of Longforgan, in Perthshire, called the Glames Tree, in the year 1796, was found to measure seventeen feet in girth, at a yard high; near the root, it measured twenty-seven feet.

An ash on Inch Merin, in Lochlomond, in Dunbartonshire, in September, 1784, measured twenty feet eight inches. Another ash, not far from the former, measured twenty-eight feet five inches. These two trees have been broken over, about seven or eight feet above ground, much more than half a century ago, as there is a group of large boughs growing from the top of their old stumps, like a pollard. Both trees are hollowed; and each forms a great bulk of living and dead timber, strangely mixed and interwoven by a succession of growths.

The great ash at Carnoch, in Stirlingshire, which we have had an opportunity of seeing and admiring, is ninety feet high, thirty-one feet in girth at the ground, nineteen feet three inches at five feet from the ground, and twenty-one feet six inches when measured four feet higher up. At ten feet from the ground, it divides into three large limbs, each of which is ten feet in circumference. It was planted about the year 1596, by Sir Thomas Nicholson, the Lord Advocate of James the VI.

We have already noticed the Earlsmill Ash. An ash in the churchyard of Bonhill, in Dunbartonshire, as Professor Walker tells us, in his catalogue of Scottish trees, at four feet above the root measured seventeen feet nine inches, in 1784; but, at the height of one foot, it was thirty-three feet in girth. The trunk divides into three great arms, at the height of six feet. It has a vast spreading head; but is not above fifty feet high. Though certainly of a great age, it is as fresh and vigorous as an ash of twenty years old.

Near the house of Bonhill, in Dunbartonshire, there is a very ancient and remarkable ash. This tree has been surrounded by a sloping bank of earth to the height of about three feet. A little above this artificial bank, or about four feet above the natural surface, it measured thirty-four feet one inch; at the height of four feet above this bank, it measured twenty-one feet three inches; and at the height of twelve feet from the ground, immediately under the three great arms into which it divides, twenty-two feet nine inches. At the junction of these arms, the leading trunk had, above a century ago, been broken over, in consequence of which the tree has become hollowed. One of these arms measured ten feet four inches, another eleven feet, and the third twelve feet in girth; and yet they seem not to have been originally branches, but only pollards formed after the trunk was broken over. Many years ago, the tree being hollowed and opened on one side, the opening was formed into a door, and the rotten part of the tree scooped out. In this way a small room, nine feet one inch in diameter, was formed within the trunk. Its roof is conical, and eleven feet high. It is floored, and surrounded with a hexagonal bench, on which eighteen people can sit, with a table in the middle; and above the door there are five small leaden windows. Though the tree has decayed in the heart, it has continued to live in the bark, and to form a great deal of new wood. The whole trunk, which is a vast mass, is thickly covered with fresh vigorous branches.

An ash in the churchyard of Kilmalie, in Lochaber, the parish church of the Lochiel family, was long considered as the largest and most remarkable tree in the Highlands. It was held in reverence by Lochiel, and his numerous kindred and clan, for many generations, which probably hastened its destruction: for in the year 1746, it was burnt by the brutal soldiery to the ground. Its remains were examined on the 23d of October, 1764. Its circuit at the ground could then be traced, most parts of the circumference of the putrid trunk being several inches, and others about a foot, above the surface of the earth. Its diameter, in one direction, was seventeen feet three inches, and the cross diameter twenty-one feet. Its circumference at the ground, taken in presence of Henry Butter, Esquire, of Fascally, and Mr Campbell, collector of the customs at Fort William, was fifty-eight feet! It stood in a rich deep soil, only about thirty feet above the level of the sea, in Lochiel, with a small rivulet running within a few paces of it. No information could be obtained concerning the exact size of the trunk. A person present, who had been well acquainted with the tree, described it as being of vast bulk, but not tall, as it divided into three great arms at about eight feet from the ground. The place was visited again in 1771, when all vestiges of the tree were obliterated. The circumference of this tree is greater than that of any ash that has yet been noticed in any part of Scotland. But if the Bonhill tree could be measured at the ground, it would probably be found to girth as much.

A beech tree in the grounds of Mr Burn Callendar, at Prestonhall, in the county of Edinburgh, at one foot from the ground, measures seventeen feet three inches in girth; at three feet, it is fourteen feet seven inches; and at four feet, it is fourteen feet six inches.

Professor Walker measured a beech at Newbottle Abbey, on the 6th of July, 1789: its trunk, where thickest, was seventeen feet in girth, and the span of the branches was eighty-nine feet. He thinks that it must have been planted between 1540 and 1560. It was blown down a short time before the year 1809. It contained upwards of one thousand measurable feet of timber, (twenty loads, or twenty-five tons,) and it is with reason reckoned among the largest beeches that have ever grown in Scotland. A beech at Taymouth, of a like size, and seemingly coeval with this, was blown down when it had reached above sixteen feet in girth. The large beech at Ormiston Hall, in Haddingtonshire, the bole of which we remember to have seen scooped artificially out into a shelter house, was measured on the 10th of May, 1762, and found to be eighteen feet ten inches. We believe it was quite entire when it was destroyed by high wind. A large beech, near Oxenford Castle, in Edinburghshire, was measured on the 6th of June, 1763. At the height of three feet from the ground it was nineteen feet six inches. This fine tree was then decaying. Professor Walker says that the beech was not copiously planted in Scotland till a little before the Revolution; and the trees planted about that period do now form, in many places, considerable timber, as at Inverary, and other places. But the four trees last mentioned, which appear to be nearly contemporary, are of a much more remote era. They seem to have been planted singly, and merely as curious foreign trees, in the garden of some eminent persons. From their dimensions and manner of growth, they may be presumed, at least, to have been planted between the years 1540 and 1560, so that they may now be estimated at between two hundred and forty, and two hundred and sixty years old. From the state of the Ormiston Hall and Newbottle trees, it may be concluded, that the beech, if it meets with no accident, will grow with sound timber for at least two hundred and fifty years.

There is a very beautiful, perfectly healthful, and thriving beech, in the close vicinity of the great ash at Earlsmill, in Morayshire. In 1812, we measured it at three feet from the ground, and found it fifteen feet in girth. At the root, it is about twenty feet.

There is another beech of similar appearance, in a garden in the town of Elgin, which is only a few inches less than that at Earlsmill.

The beech tree, at Korole Park, in Kent, which is figured by Mr Strutt in his *Sylva Britannica,* is a most beautiful, as well as a magnificent, specimen of the tree, of which there are numerous very noble individuals in the grounds where it stands. It rises with a stem, which thickens upwards, till it bursts out into a perfect forest of limbs, which sweep away in all directions. At three feet from the ground, it is twenty-four feet in circumference; at ten feet, it is twenty-seven feet. It rises to the height of one hundred and five feet; its boughs extend one hundred and twenty-three feet; and it contains four hundred and ninety-eight feet of solid timber.

Mr Sang tells us, that, in the grounds at Panmure, there is a beech tree twenty-six feet six inches in circumference at the surface of the ground, and at two feet high twenty feet. A beech at Ardkinglass, in Argyleshire, is as large as this, with a longer stem and finer head. Excepting at Castle Howard, in Yorkshire, and at Woburn, in Bedfordshire, we have seen no beeches to be compared with these. The beech called the Spanish Beech, in the Roy Wood, at Castle Howard, at three feet high, is fifteen feet two inches in girth; the stem is thirty-five feet high; and the total height about ninety feet. The largest Woburn beech, at the same height, measures eleven feet three inches in girth; stem, fifty feet; total height, about eighty feet.

A Spanish chestnut, at Prestonhall, at one foot from the ground, measures eighteen feet in girth; at three feet, fifteen feet; at four feet, fourteen feet six inches; and at ten feet, it is nineteen feet.

There are some very large chestnut trees at Lord Gray's residence, Kinfauns Castle, in Perthshire. The largest of them was cut down in October, 1760, and measured twenty-two feet eight inches. This tree was supposed by the proprietor to be above two hundred years old. All the branches had leaves and fruit upon them the year it was cut, though the trunk was found entirely decayed. The cellular substance was shrunk, and apparently much consumed, so that the wood appeared to the eye like a sponge full of small holes. The ligneous fibres being left naked, appeared much more conspicuous, and were far more easily traced than in sound wood: one instance, among many, that the cellular substance has no immediate concern in the formation of the flower and fruit, but serves chiefly as a reservoir of the sap, to the fibrous part.

A chestnut in the garden at Castle Leod, in Ross-shire, measures at least fifteen feet in circumference.

There is a beautiful chestnut at Riccarton, in the county of Edinburgh. One of the large main stems has been broken off many years ago, so that the trunk has been much injured and decayed. But its boughs and foliage are as full and rich as can possibly be, and the branches have, in many places, reached the ground, and rooted. They extend over an area of seventy-seven feet in diameter, and immediately above the ground the trunk measures twenty-seven feet in girth.

The great chestnut called the Four Sisters, in the park of Cobham Hall, stands in the Heronry. Mr Strutt, in his *Sylva Britannica*, gives us a magnificent etching of it. Its original head is gone, and it has been replaced by a set of young vigorous stems, which have probably given to it the name which it bears. The trunk, however, is extremely grand, and the whole tree very picturesque. It is thirty-five feet two inches in circumference at the ground, avoiding the spurs; twenty-nine feet at three feet from the ground; thirty-three feet at twelve feet from the ground; and forty feet at the point where the stem divides.

The great chestnut that stood at Finhaven, in Forfarshire, was long accounted the largest tree in Scotland. In the year 1760, a great part of the trunk of this remarkable tree, and some of its branches, remained. The measures of this tree

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at Riccarton

were taken before two Justices of the Peace, in the year 1744. By an attested copy of this measurement, it appeared, at that time, that at half a foot above the ground, it was forty-two feet eight inches and a half. As this chestnut appears, from its dimensions, to have been planted about five hundred years ago, it may be presumed to be the oldest planted tree that is extant, or that we have any account of, in Scotland. In the possession of Skene of Carriston, there is a table made of the wood of this tree, having an engraved plate, on which are marked its dimensions. The castle of Finhaven was an ancient seat of the Earls of Crawford. It was to this place that the third Earl of that title retired after the battle of Brechin. He was called the Tiger Earl, or Earl Beardie, from the enormous length of his beard. After being reconciled to King James the II. he became a peaceful subject; but the turmoil of war seemed to have been necessary to his existence, for he died in six months afterwards. Let us imagine this old warrior seated with some of his companions beneath this aged chestnut, and we shall have a picture worthy of Salvator.

There was a chestnut, also of surprising bulk, at Leven Side, in Dunbartonshire. It was overthrown by the hurricane on the 13th of January, 1739, but its precise dimensions have not been ascertained.

It would seem that the chestnut grows faster, both in South and North Britain, than the oak, and that there is more difference in the superiority of the growth of the oak in South, over that in North Britain, than there is in any other tree. This, we presume, arises from the double shoot made annually by the oak, the second of which always ripens in England, but is very often nipped in Scotland.

Mr Beevor mentions the old chestnut in Lord Petre's old park at Writtle, in Essex, which he describes as very hollow. When measured at three feet and a half, the least part of the trunk, it was forty-two feet five inches in girth; at five feet, it was forty-six feet one inch; and at six feet, forty-nine feet five inches and seven-eighths.

Of the Tortworth Chestnut, noticed by Mr Gilpin, (page 216,) we have an admirable etching in Mr Strutt's work. This remarkable tree was well known as a boundary mark to the manor of Tortworh, in Gloucestershire, as old as the reign of King Stephen. It was then an object of interest for its magnitude; so that, if three hundred years be allowed to it, as is allowed to the oak, for coming to perfection, we must go at least as far back as the reign of Egbert for its childhood, — that is, to the year 800, which would make it above one thousand years, to which age, at least, we think it entitled by a very fair process of reasoning. It is a most picturesque object, and it and its saplings which have sprung up around it, form a grove of themselves. Besides suffering from the encumbrance of three walls, to which it was long subjected, it has been a good deal injured by the axe. Its measure is fifty feet in circumference at five feet from the ground. The body is seventy feet in height, where it divides into three limbs, one of which measured twenty-eight feet and a half in girth, at five feet from the parent stem. The solid contents, as timber is usually measured, are one thousand nine hundred and sixty-five feet; but its true geometrical contents are much more.

A horse chestnut in front of the house of Fountainhall, in Haddingtonshire, a very beautiful umbrageous tree, measures eight feet two inches in girth, at three feet from the ground; and the branches cover an area of fifty feet diameter. — A horse chestnut at Yester measures, at one foot from the ground, about ten feet.

The great horse chestnut at Burleigh is sixty feet high, ten feet in girth at four feet from the ground, contains three hundred feet of solid timber, and its branches cover an area of sixty-one feet in diameter.

A horse chestnut at Halton, in the county of Edinburgh, measured eleven feet four inches in girth, at four feet from the ground.—A horse chestnut at Prestonhall, at one foot from the ground, measures fourteen feet three inches; at three feet from the ground, ten feet nine inches; and, at four feet, ten feet three inches. There are many trees near it of dimensions little inferior.

The planting of the horse chestnut in Britain is not of very old date. The tree was brought from the east into Europe about the year 1550. A branch of the tree, with flowers on it, was received by Clusius from Vienna in the year 1603. He had never seen it till that time, and gave the first figure of it in 1605. The tree was not known at Paris till 1616, and was probably first planted in England about that time, or soon after.

The two trees on the lawn, which was formerly the garden at Dawick, the seat of Sir John Murray Nasmyth, Bart., a few miles above Peebles in Tweeddale, are certainly the oldest and finest in Scotland; or, perhaps we should say that there are none equal to them in Britain. They stand twelve feet apart from each other, but they support a mass of foliage that appears to be but one head, which takes a beautiful form, and covers an area of ground the diameter of which is ninety-six feet. The largest of the two is in girth, immediately above the root, sixteen and half feet; at three feet high it is twelve and a half feet, and at six feet high it is twelve and a half feet. The smaller tree is twelve and a half feet in circumference at the base, and ten feet at three feet high. These measurements are kindly communicated to us by Sir John Nasmyth himself; and from what Dr Walker has said of these two horse chestnuts, we have no doubt that they are from one hundred and eighty to one hundred and ninety years of age.

A lime tree at Yester, at one foot above the ground, measures about fourteen feet, and at six feet up it is about twelve feet.

There is a magnificent lime tree at Gordon Castle, the head of which spreads over a large extent of ground. Its trunk is of great magnitude, and the branches being supported by posts, form a most beautiful canopy of shade. We are told that the two first lime trees were planted in England about the year 1590, and are still growing at Halsted in Kent. Dr Walker thinks it more probable that the tree was introduced into England by the Romans, but that it does not appear to have been planted in Scotland before the reign of Charles II. The oldest and largest in Scotland are those at Taymouth and Inverary.

The Moor Park lime tree is beautifully figured by Mr Strutt. It stands on a little eminence finely terminating a row of stately trees of the same sort, which bound one side of the park for more than three quarters of a mile. All of these are loftier, and some of them thicker than this, but none equal it in the magnificence of its head. Nineteen large branches, six or eight feet in girth, strike out horizontally from sixty-seven to seventy-one feet, and these support three or four upright limbs. It is at this moment in full vigour, and its branches sweep down and support themselves on the earth. At the surface, its stem is twenty-three feet three inches in girth; at three feet above, it is seventeen feet six inches. Its branches extend one hundred and twenty-two feet in diameter, and cover three hundred and sixty feet in circumference. It is nearly one hundred feet in height, and it contains, by actual measurement, eight hundred and seventy-five feet of saleable timber.

The lime at Cobham Park, is more a tall than a spreading tree. It measures above twenty-eight feet in circumference at the ground, it is ninety-one feet high, it contains five hundred and thirty-six feet of timber, and is likely to increase in size for many years.

Sir Thomas Brown mentions a lime tree in the county of Norfolk ninety feet high, and with a trunk forty-eight feet in circumference at a foot and a half from the root.

A sycamore on the lawn behind the house at Nisbet, in Berwickshire, is about sixty or seventy feet high; and, in September, 1795, measured twelve feet three inches.

A sycamore at Dawick measures fifteen feet, at three feet from the ground.

A sycamore in the garden at Castle Menzies, in Perthshire, measured in 1778, was found to be sixteen feet eight inches.

A sycamore at Bishopton, in Renfrewshire, figured by Mr Strutt, in his superb work, is twenty feet in girth at the ground, and sixty feet high; it is a magnificent spreading tree, and contains seven hundred and twenty feet of solid timber. It stands on the banks of the Clyde, opposite to Dunbarton Castle.

A sycamore at Calder House, in the county of Edinburgh, standing on the pleasure ground, on the road from the house to the church, on the 4th of October, 1799, measured seventeen feet seven inches in girth; at the ground it measured twenty feet three inches. Its trunk is twelve feet high, and it then divides into five great arms. Its branches extend in diameter about sixty feet. This tree is known to have been planted before the Reformation, and it is supposed to be not less than three hundred years old; yet it has the appearance of being perfectly sound. It was the tree to which, long ago, the iron jugs (a species of pillory) were fastened. The tree came gradually to grow over them, and they have now been completely enclosed in its trunk for a considerable time. At the place where they are enclosed, there is a great protuberance, on the south side of the tree, at the height of between four and five feet.

A sycamore at Prestonhall, in Edinburghshire, at one foot from the ground measures nineteen feet three inches, at three feet it measures fifteen feet, at four feet it measures fourteen feet six inches, and at nine feet it measures twenty feet six inches.

A sycamore near the house in the Marquis of Tweeddale's grounds of Yester, in East Lothian, at one foot from the ground, measures about nineteen feet, and at six feet from the ground it is about fifteen feet.

A sycamore at Newbottle Abbey, situated north-west from the house, and the largest tree of the kind about the place, in 1789, measured, at four feet from the roots, eighteen feet seven inches in girth. At the height of two feet and a half from the ground, it was twenty-four feet four inches, and it is about seventy feet high. It has the appearance of great antiquity, but seems still to be sound. Many other sycamores at Newbottle were planted before the Reformation, and apparently about the same time with this, though they are inferior in size. This tree was probably planted before the year 1530.

"The first barren trees planted in Scotland," says Professor Walker, reasoning on the measurements he has given us, "were those of exotic growth. These, at the time, were planted in gardens rather from curiosity or from ornament, than for use. We have no planted oak, ash, elm, or fir, of so old a date; as the country was then full of natural woods composed of those trees, and very little demand for them." We are disposed, however, to doubt the propriety of classing the chestnut among the trees of exotic growth.

A sycamore at Niddry Marischall, in the county of Edinburgh, at three feet from the ground, measures nineteen feet four inches.

The sycamore in Cobham Park stands on a gently rising ground not far from the celebrated Cobham Park Lime Tree. It measures twenty-six feet in circumference at the ground, and ninety-four feet in height; its solid contents are four hundred and fifty feet. The spread of its branches is not great.

The sycamore at Kippenross, is truly a noble tree. It has been figured by Nattes in his *Scotia Depicta.* He states it to have been, in 1801, twenty-eight feet nine inches in girth, with a stem of thirty feet. He must have measured its circumference at the ground, as, when taken breast high, in 1798, its girth was only twenty-two feet six inches. In 1809, this tree was in full health and beauty.

The oriental *Platanus*, or Plane Tree, at Lee Court, near Blackheath, is a very beautiful tree. It is admirably figured by Mr Strutt. It stands on the bank of a small rivulet, and was one of the first trees of the kind introduced into Britain, as we learn from Evelyn, who visited it, "September 16, 1683. At the elegant villa and garden of Mr Bohun, at Lee," says he, "he shewed me the Zinnar Tree, or *Platanus*, and told me, that since they had planted this kind of tree about Ispahan, in Persia, the plague, which formerly much infested the place, had exceedingly abated in its mortal effects, and rendered it very healthy." The circumference of this tree, at six feet from the ground, is fourteen feet eight inches; it is sixty-five feet high; and it contains three hundred and one feet of timber. Evelyn thus speaks of Lee Court: "Went to see our good neighbour, Mr Bohun, whose whole house is a cabinet of all elegancies, especially Indian: in the hall are contrivances of Japan skreens instead of wainscot, and there is an excellent pendule clock inclosed in the curious flower work of Mr Gibbons, in the middle of the vestibule. The landskips of the skreens represent the manner of living, and country of the Chinese. But above all, his lady's cabinet is adorned in the fret ceiling, and chimney-piece, with Mr Gibbons' best carving. There are also some of Streeter's best paintings, and many curiosities of gold and silver, as growing in the mines. The gardens are exactly kept, and the whole place very agreeable and well watered."

A Norway maple, near the house of Tynningham, in Haddingtonshire, in 1799, measured seven feet three inches. This tree was planted by the Earl of Haddington, in what was then the garden, probably between the years 1720 and 1730. It is a healthful, vigorous tree, and produces ripe seeds every year.

A maple at Eulter, in Clydesdale, measured in the year 1800, at the height of three feet from the ground, was found to be eight feet in circumference; at the height of three feet, it divides into two arms, one of which, at two feet above the trunk, measures six feet round; the other, at the same height above the trunk, measures four feet two inches round.

Mr Strutt gives us a most interesting etching of the maple in Boldre churchyard, which is mentioned by Gilpin as the largest maple in England. It is ten feet in circumference at the ground; and at four feet from the ground, is seven feet six inches. The trunk divides into branches at twelve feet, and the entire height of the tree is forty-five feet. "It was here," as Mr Strutt tells us, "that the late Rev. William Gilpin, after fulfilling his duties in the most exemplary manner, for twenty years, as rector of this parish of Boldre, chose for his last resting place this sweet sequestered spot, amidst the scenes he so much loved, and has so well described;" and so with singular good taste the author concludes the English part of his splendid work on *British Trees*, with the name of Gilpin.

A Scotch fir at Castle Huntley, in Perthshire, measured in 1796, at three feet from the ground, was thirteen feet six inches in girth. Close to the ground, it measured nineteen feet, and it is not unlikely it may be the largest planted fir in the country. The reservative wood *planted* is extremely proper here, as we believe many examples of larger *natural* firs have been produced. " Few fir trees," says Professor Walker, " were planted before the beginning of the present century; and as the fir is a tree, that, from the number of rings found in it, will probably grow four hundred years, it is impossible that the planted firs can have come to their perfection." This may be all true; but as the reasoning proceeds upon the fact of a natural Swedish tree, perfectly sound, having three hundred and sixty circles in it, it by no means follows that a planted fir will not rot in a premature state of disease, and die before it has sixty circles.

The largest spruce fir trees in Scotland were formerly at Drumlanrig Castle. They were planted about the year 1686; and the ground being full of weeping springs, they rose to a great size. They were in full vigour when cut down a few years ago, but their dimensions were not exactly taken. This unfortunately was also the case with some enormous spruces planted by the late Earl of Moray at Tarnawa.

A spruce fir, the largest in the gardens at Castle Menzies, in Perthshire, in September, 1778, was eighty feet high, and measured nine feet round, at four feet above the root,—a height always understood to be implied here when no other is specified.

There were five very noble silver firs at Ballindalloch, the seat of Mr Macpherson Grant, in Morayshire, most of which have been recently killed by the *Chermes Pini*. We measured them in 1812, and found the largest to be ten feet ten inches in girth at one foot above the root; and at three feet above the root, it was eight feet eleven inches.

A silver fir at Bargoly, in the stewartry of Galloway, in September, 1780, measured eight feet. This tree was planted in 1797. It had a clear trunk of thirty-five feet, and was about one hundred feet high. Another silver fir of the same age was cut at this place in the year 1780, which contained one hundred feet of timber.

A silver fir, at the house of Polkemmet in Linlithgowshire, in October, 1799, measured ten feet. This tree was planted in the year 1705. It is at present little above fifty feet high. But twenty-five feet of its top were broken off by a hurricane about thirty years ago.

A silver fir in the old garden at Woodhouselee, in Edinburghshire, in March, 1793, measured eleven feet one inch. This tree, in March, 1759, measured seven feet four inches. It was planted about the beginning of the eighteenth century, but it had been decaying for several years.

A silver fir at Drumlanrig Castle, in Nithsdale, on the 24th of April, 1773, measured exactly twelve feet. This was the largest of six trees standing in a row near the castle. They were placed only twelve feet distant from each other, and yet the other five were all above ten feet in girth. They were planted in the year 1690, and were all about eighty feet high. Marsham tells us, that in the dock-yards at Venice, he saw silver and spruce firs above one hundred and twenty feet in length, and one that was one hundred and seventeen feet long was eighteen inches in diameter at the small end. This is nothing to the trees of the Alps and the Jura. We remember having been thrown into some degree of alarm by encountering one of these enormous silver fir logs, as we were going up the Jura. Our caleche had got three parts of the way up the hill, where the road gradually ascended along the perpendicular face of the mountain, and hung over the valley and the village we had left, which looked like some toy as it lay in the narrow bottom below, when we were suddenly met by a vast pine log, laid, not on two carts as with us, to keep it steady, but on one cart, whence both the butt and the top projected, so that the point jerked backwards and forwards, with terrific force and elasticity. To our infinite horror, this magnificent sylvan specimen took the wall of us, and we must confess that we have spent few more anxious minutes during our lives than that which was occupied in steering by this danger, for if we had been but touched by the tree in its jerking vibrations, the carriage, horses, and all, would have been lanched into the air, exactly as a small beetle might be fillupped by the finger from the sill of a garret window into the street.

The first silver firs in England were planted in Harefield

Park, in Middlesex, in 1603. In the year 1679, the largest of them was thirteen feet in girth at the root, eighty-one feet high, and contained one hundred and forty-six feet of good timber.

A silver fir at Dawick, the measurement of which has been kindly transmitted to us by the worthy owner, Sir John Murray Nasmyth, Baronet, is one of many standing in an avenue, most of which are of nearly equal magnitude, and are beautifully feathered to within six feet of the root. They were planted by the grandfather of the present Baronet, in 1735. The circumference at the base is seventeen feet; at five feet from the ground, eleven feet and a half; and at thirty feet from the ground, ten feet and a half; and the whole tree contains four hundred and ninety-five feet eleven inches two parts cubic measure.

The two silver firs growing at Roseneath, which we have already noticed as being the finest we ever saw, were measured by us, in company with Lord John Campbell, on the 10th of December, 1817. The circumference of one of these, at five feet from the ground, was fifteen feet nine inches; at three feet from the ground, it was seventeen feet six inches; and just above the roots, it was nineteen feet eight inches. The second tree was sixteen feet two inches in girth at five feet from the ground; seventeen feet eleven inches at three feet from the ground; and nineteen feet ten inches when measured immediately above the roots. Mr Strutt, whose superb work was published in 1822, gives us a figure of the larger of these two trees, which he states to be then twenty-two feet four inches in girth, at one foot above the roots; and seventeen feet five inches at five feet from the ground; its height about ninety feet, and its cubic contents about six hundred and nineteen feet ten inches. We have now, through Lord John Campbell's kind attention, received the following measurements of these trees, taken on the 9th August, 1833. No. I. at five feet from the ground, is seventeen feet seven inches in girth; at three feet, its girth is eighteen feet four inches, and near the roots it is twenty-two feet. No. II. is eighteen feet two inches in girth at five feet from the ground, eighteen feet nine inches at three feet from the ground, and twenty-four feet one inch when measured near the roots; which shews an increase, since we measured it with Lord John Campbell in 1817, of four feet three inches in girth, or nearly three inches and three-tenths annually, which, being much greater than the average growth of trees in general, shews how very vigorous and thriving these very magnificent trees must be. The height of No. I. is about one hundred and five feet, and that of No. II. is about one hundred and fifteen feet, and the contents of both, including limbs, are calculated at about thirteen hundred cubic feet.

At the house of Killearn, in Stirlingshire, there are several larches which, in 1794, measured nine feet in girth. They were planted about sixty years, and were about one hundred feet high.

A larch at Prestonhall, at one foot from the ground, measures thirteen feet three inches; at three feet it is ten feet six, and at four feet it is ten feet.

Robert Steuart, Esquire, has a noble and very picturesque larch at Alderston, near Haddington. Its girth, at one foot from the ground, is fourteen feet eight inches; at four feet from the ground, ten feet six inches; and at ten feet from the ground, ten feet. Immediately above this, a grand branch sweeps boldly out from the main stem, measuring eight feet three inches in girth.

Mr Strutt figures the great larch at Dunkeld, which was said to be the first introduced into Scotland, and planted about ninety-eight years ago. In 1796 it was measured, and found to be ten and a half feet in girth at three feet from the ground; and seven feet seven inches, at twenty-four feet from the ground; and its height eighty-five feet. In 1825 it was measured again, and at the same distances from the ground it was found to be thirteen feet, and nine feet five inches; and its height ninety-seven and a half feet. There are two of these trees, and the second one is not much inferior. They stand close to the walls of the ancient cathedral of Dunkeld. This is one of the five larches which were given, when seedlings, to James, Duke of Athol, by Mr Menzies of Megany, in 1738.

Sir John Nasmyth has nine very picturesque larches, at Dawick. They take a singularly irregular and fantastic form, and throw out gigantic limbs. They were planted in 1725, a date which, he says in his communication to us, "is doubted, but which his father, the late baronet, always positively declared was correct, being what his father, who planted them, had always told him was the exact period of the establishment of the larches at Dawick. The three largest of these are of the following girth: The Crooked Larch at Dawick measures in circumference, at seven feet from the ground, that is, imme-

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at Roseneath

diately under the spread of the limbs, fifteen feet; at four feet from the ground it measures thirteen feet; and its circumference immediately above the roots is nineteen feet. This singularly picturesque tree had one of its most important limbs torn away by lightning, in the summer of 1820. The second larch tree is twelve feet in girth, at three feet from the ground; and fifteen feet above the roots: and the third larch tree is eleven feet nine inches at three feet from the ground; and fifteen feet in circumference at the ground.

A yew, at the house of Rosedoe in Dunbartonshire, in 1795, at two and a half feet above the root, measured twelve feet six inches.

A yew in the island of Inch Lonach, or what is commonly called the Yew Tree Island in Lochlomond, measured on the 3d of August, 1770, was ten feet seven inches. This tree was about forty feet high; but another tree, which was the largest in the island, though not so tall, measured thirteen feet in girth. We know not whether these trees were sacrificed among the three hundred yew trees which were cut on this island. There has been, for many years, a herd of deer which has prevented young trees rising from the seed. But many of those which have begun to decay, have sent up shoots from the root, close to the old trunk. A number of these coalesce, and form at last a complete new trunk, at the side of which the old one continues to decay. In this way the tree comes to be regenerated from the root. Besides this natural wood of yew, we may mention that, in the island of Bernera, adjacent to the Sound of Mull, the late Sir Duncan Campbell cut a yew of a vast size. Its precise dimensions were not preserved, but the timber of it deeply loaded a Highland six-oared boat, and was sufficient to form a large elegant staircase in the house of Lochnell, which was afterwards burnt.

One of the most beautiful yew trees we know is that growing in the garden at Ormiston Hall, a seat of the Earl of Hopetoun, in Haddingtonshire. It throws out its vast limbs horizontally in all directions, supporting a large and luxuriant head, which now covers an area of ground of fifty-eight feet in diameter with a most impenetrable shade. Above the roots it measures twelve feet nine inches in girth; at three feet up, it measures thirteen feet half an inch; at four feet up, it measures fourteen feet nine inches; and at five feet up, it measures seventeen feet eight inches in girth. It is in full health and vigour.

The yew trees of the group at Fountains Abbey are very curious in themselves, as well as historically interesting. Burton gives us the following account of these trees: "At Christmas, the Archbishop, being at Ripon, (anno 1132,) assigned to the monks some lands in the patrimony of St Peter, about three miles west of that place, for the erecting of a monastery. The spot of ground had never been inhabited, unless by wild beasts, being overgrown with wood and brambles, lying between two steep hills and rocks, covered with wood on all sides, more proper for a retreat for wild beasts than the human species. This was called Skeldale, that is, the vale of Skell, a rivulet running through it from the west to the eastward part of it. The Archbishop also gave to them a neighbouring village, called Sutton Richard. The Prior of St Mary's, at York, was chosen Abbot by the monks, being the first of this monastery of Fountains, with whom they withdrew into this uncouth desert, without any house to shelter them in the winter season, or provisions to subsist on; but entirely depending on Divine Providence. There stood a large elm in the midst of the vale, on which they put some thatch or straw, and under that they lay, eat, and prayed, the Bishop for a time supplying them with bread, and the rivulet with drink. Part of the day some spent in making wattles, to erect a little oratory, whilst others cleared some ground, to make a little garden. But it is supposed that they soon changed the shelter of their elm for that of seven yew trees, growing on the declivity of the hill, on the south side of the abbey, all standing at this present time, except the largest, which was blown down about the middle of the last century. They are of extraordinary size. The trunk of one of them is twenty-six feet six inches in circumference, at the height of three feet from the ground; and they stand so near each other, as to form a cover almost equal to a thatched roof. Under these trees, we are told by tradition, the monks resided, till they built the monastery; which seems to be very probable, when we consider how little a yew tree increases in a year, and to what a bulk these are grown. And as the hill side was covered with wood, which is now cut down, except these trees, it seems as if they were left standing, to perpetuate the memory of the monks' habitation there, during the first winter of their residence." These magnificent trees are figured by Strutt, who tells us that they are most shamefully ill cared for, and subjected to be mangled by the axes of the unthinking peasants, whenever a morsel of wood is wanted for any purpose.

The yew tree at Ankerwyke House, near Staines, is supposed to be upwards of one thousand years old. Henry VIII. was said to have made it his place of meeting with Anne Boleyn, while she was placed at Staines ; and it witnessed the signing of Magna Charta, which took place in the island in the Thames between Runnymede and Ankerwyke House. Mr Strutt figures this tree with his usual felicity. He says, that its girth, at three feet from the ground, is twenty-seven feet eight inches ; at eight feet it is thirty-two feet five inches ; above this it throws out five principal limbs, which are respectively five feet five inches, six feet ten inches, five feet seven inches, five feet seven inches, and five feet nine inches in girth. Above these branches the trunk measures twenty feet eight inches in girth. At twelve feet from the ground, branches spring forth in every direction, forming a magnificent umbrageous head, forty-nine feet six inches high, and extending two hundred and seven feet.

In the church-yard of Dibdin, in the New Forest, in Hampshire, there is a yew tree, which measures above thirty feet in girth above the roots.

In the church-yard of Tisbury, in Dorsetshire, there is now standing, and in fine foliage, although the trunk is quite hollow, an immense yew tree, which measures thirty-seven feet in circumference, and the limbs are proportionately large. The tree is entered by means of a rustic gate ; and seventeen persons lately breakfasted in its interior. It is said to have been planted, many generations ago, by the Arundel family.

According to Evelyn, the Crowhurst Yew was thirty feet in circumference. That at Braburne church-yard, in Kent, was nearly twenty feet in diameter, that is, about sixty feet in girth, although it had been dismantled by storms. And at Sutton, near Winchester, as Evelyn quaintly says, there was "such another monster." At Hensor, in Buckinghamshire, there was lately, if there be not still, a yew, in health and vigour, twenty-seven feet in diameter, or about eignty-one feet in girth. And in the woods of Cliefden, near Hinsor, there are some extraordinary remains of yew trees, apparently of immense age, with roots most fantastically twisting about among the chalk rocks.

The great yew at Fortingal in Perthshire, still remains. But Pennant says, it measured fifty-six and a half feet, and that although the middle of it is quite worn away, so that it was divided into two distinct stems, yet Captain Campbell of Glenlyon, assured him that, when he was a boy, the connecting part was so high, that he required to climb over it, when he wished to pass through the tree. Funerals were accustomed to go through it in procession. It is supposed to be coeval with the time of Fingal. Fortingal, "the fort of the strangers," is so called from a small Roman camp in the vicinity. This yew is figured by Mr Strutt. Our scientific friend, Mr Neill, the naturalist, visited this celebrated tree in July last. In a letter which he has had the goodness to write to us on the 21st September, he says, that it is truly a venerable vegetable; and the editor of the *Edinburgh Philosophical Journal* thus writes about it from Mr Neill's information:—"The yew tree here alluded to stands in the church-yard of Fortingal, at the entrance to Glenlyon in Perthshire. It was described by the Hon. Daines Barrington in 1769, (*Philosophical Transactions*, vol. lix.) He mentions that, at that period, on one side of the trunk, the outward bark only remained, the centre having decayed; that the fresh portion was then thirty-four feet in circumference; but that he could then measure the entire bole, and had, in fact, measured it twice over, and ascertained it to be fifty-two feet. This ancient tree still lives, and was visited, in July, 1833, by Mr Neill, secretary to the Caledonian Horticultural Society. From him we learn, that considerable spoliations have evidently been committed on the tree since 1769; large arms have been removed, and masses of the trunk itself carried off by the country people, with the view of forming quechs, or drinking cups, and other relics, which visitors were in the habit of demanding. The remains of the trunk now present the appearance of a semicircular wall, exclusive of traces of decayed wood, which scarcely rise above the ground. Great quantities of new spray have issued from the firmer parts of the bark, and a few young branches spring upwards to the height perhaps of twenty feet. The side of the trunk now existing gives a diameter of more than fifteen feet, so that it is easy to conceive that the circumference of the bole, when entire, should have exceeded fifty feet. Happily, farther depredations have been prevented by means of an iron rail, which now surrounds the sacred spot; and this venerable yew,

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Kidd Etc

YEW

which in all probability was a flourishing tree at the commencement of the Christian era, may yet survive for centuries to come."

A weeping birch at Ballogie, in the parish of Birse, in Aberdeenshire, in 1792, measured five feet in circumference; but it carried nearly this degree of thickness, with a clear stem, up to the height of about fifty feet, and it was judged to be about one hundred feet high.

There are many birches in the forest of Tarnawa in Morayshire, which are ten and eleven feet in circumference, and we measured one, which, so far as we can recollect at the time we sketched it from Nature, was thirteen feet at three feet from the ground.

The birch is a quick growing, but short-lived, tree. In thirty years it will rise forty feet high, but it seems to arrive at its maturity in about seventy years, or, at most, within a century.

A Huntingdon willow, in the Old Botanic Garden at Edinburgh, in 1798, measured nine feet four inches in girth; it was thirty-three years old.

A willow at Alderston, near Haddington, is thirteen feet in girth, at three feet from the ground; and, at six feet from the ground, it measures fourteen feet round.

The Abbot's Willow at Bury St Edmunds, is of the species *Salix alba*. It stands on the bank of a small river called the Lark, in the park of John Benjafield, Esq. It is seventy-five feet high; the stem is eighteen feet six inches in girth; it divides, in a very picturesque manner, into two large principal limbs, which are respectively fifteen and twelve feet in girth. It covers an area of two hundred and four feet in diameter, and it contains four hundred and forty feet of solid timber.

In the year 1769, there was a row of Abeles at Stercuston, in Haddingtonshire, which was soon afterwards cut down. It contained one hundred and twenty-two trees, all about eighty feet high, and from twenty to thirty feet of clear trunk without a branch. The trunks were from five to seven feet in circumference, and yet the trees stood only seven feet distant from each other. They were in a deep moist soil, were eighty years old, and afforded a great quantity of timber. They were beginning to decay.

An abele at Drumlanrig, in 1773, measured seven feet ten inches. This tree, which stood in a dry soil, was eighty years old, and about seventy feet high.

The great abele at Fountainhall, in Haddingtonshire, which is so tall that it may be seen over the greater part of the surrounding country, measures eight feet one inch in circumference at three feet from the ground, and it carries its thickness up, with a very gradual diminution, to the top. It is a very picturesque tree.

Dr Walker says, that it is doubted whether or not the abele is a native of England, but that it certainly has the appearance of being an indigenous tree in several parts of Scotland. It was planted in many places about the end of the last, and the beginning of the present century; but it has since been neglected. The wood is not valuable, and the tree becomes a nuisance, from the suckers with which it fills the adjacent soil.

A walnut tree, growing before the front of Kinross House, in Kinross-shire, in September, 1796, measured nine feet six inches in girth. This tree seems to have been planted about the year 1684. It is probably the oldest walnut tree in Scotland. It is evidently decaying, whether from accident or age is uncertain. The walnut grows well in Scotland as a forest tree. There are many walnut trees of a size equal, if not superior, to that of this tree.

A hawthorn at the House of Kinkarochie, in the parish of Scone, in Perthshire, measured in 1795, was found to be nine feet in girth. This is equal to the hawthorn of Duddingstone, which we have already noticed in our previous remarks upon the tree. The Duddingstone tree is twelve feet round above the roots. The Kinkarochie tree, however, seems to have a finer head, for the circular spread of its branches is fourteen yards in diameter. The hawthorn is certainly one of the longest lived trees; and there are doubtless many in the country of a larger size than those mentioned.

A laburnum, which was cut at Greenlaw in Edinburghshire, in the year 1763, measured four feet six inches in girth, and furnished a plank of beautiful red wood fourteen inches broad. It was planted in the end of the seventeenth century, when laburnum trees were first introduced into Scotland. We are persuaded that many much larger laburnums now exist in the country.

A hornbeam, at Bargoly, in Galloway, in 1780, measured six feet two inches round. It had twenty feet of a clear trunk, and was seventy feet high.

A black poplar, at Alloa House, in Clackmannanshire, in 1792, measured thirteen feet six inches in girth, at a height from the ground of between three and four feet. The black poplar at Bury St Edmunds is ninety feet high, and fifteen feet in circumference at one yard from the ground. The trunk rises forty-five feet before it divides, and then it throws out a profusion of branches; its solid contents, by actual measurement, are five hundred and fifty-one feet. It is a very graceful and beautiful tree.

A Lombardy poplar, at Nisbet, in Berwickshire, in 1795, when twenty-six years old, was sixty feet high, and measured six feet one inch in girth. Dr Walker says, that, on the borders of a canal near Brussels, this tree, in the space of fifteen years, has grown to the height of eighty feet, and from seven to eight feet in circumference; but this is nothing to some of the trees of this sort near London, and even in some of the other parts of Scotland.

An ilex, at Loudoun, in Ayrshire, thirty feet high, in 1776, measured three feet nine inches in girth; and another ilex, being one of a row of these trees at Mount Stewart, in the island of Bute, in 1786, also measured exactly three feet nine inches. The ilex, though hardy with us, is a tree of very slow growth.

A bird cherry, at Drumlanrig, forty feet high, in 1773, measured eight feet in girth. The tree was fresh and vigorous. On the banks of the Findhorn, and in other parts of the north of Scotland, this tree often rises much above this size. The red wood of the bird cherry is of a fine dark colour, and takes a good polish.

A deciduous cypress, in the fruit garden at Loudoun, in Ayrshire, in 1776, measured two feet four inches. It was twenty-five feet high, and thirty years old.

A pear tree, at Restalrig, near Edinburgh, at two and a half feet high, before it begins to branch, in 1799, measured twelve feet in girth. It stands in a garden, adjacent to what was the house of Albert Logan of Restalrig, who was attainted in the reign of James VI, and the tree was probably planted before his forfeiture. It is of the kind of pear called the Golden Knap. As the wood of the pear tree is valuable, it is often very advisable to plant out the seedlings raised from the golden knap, which form the largest and most durable trees.

We find the following curious notice in a letter from the late Sir Andrew Lauder of Fountainhall, dated 26th September, 1792: — "I must not omit mentioning, that I saw, in a garden at Dunbar, rented by one Yorkstone, a jargonelle pear tree, extending (on a sixteen feet high wall) within three inches of sixty feet. By the gardener's calculation, he had, of this crop, not less than four hundred dozen of pears upon it, which he was selling at one shilling and sixpence per dozen ; indeed, I never saw such a load." We are old enough to corroborate the fact here stated. The stroke of a pocket pruning knife was sufficient to fill a basket with the fruit. At the rate they were sold, the pears of this tree brought £30 sterling.

An apple tree, in a garden at Jedburgh, in 1763, measured at three feet above ground seven feet two inches. The spread of its branches was above forty feet diameter, and it bore eight bolls of apples.

An apricot, on a wall at Lethington, in East Lothian, in 1785, measured three feet two inches in girth. It was reckoned to be above one hundred years old, and was still fruitful. Another tree of the same kind was, many years ago, thirty feet high, and forty-four feet in breadth, on the wall of the castle at Branspeth, in the bishoprick of Durham.

OBSERVATIONS

ON

FOREST SCENERY.

BOOK II.

SECTION I.

From considering trees as individuals, we proceed next to consider them under their various combinations, among which Clumps are the simplest.

What number of trees make a clump, no rules of art prescribe. The term has rather a relative meaning. In scenes brought near the eye, we call three or four trees a clump. But in distant and extensive scenery, we scruple not to use the term for any smaller detached part of a wood, though it may consist of some hundreds. But though the term admits not of exact definition, I shall endeavour, by amplification, to make the ideas contained under it as distinct as I can.

We distinguish, then, two kinds of clumps, the smaller and the larger; confining the former chiefly to the foreground, and considering the latter as the ornament of a distance.

With regard to the smaller clump, the chief beauty we expect here, arises from contrast in the parts. We have seen that, in single trees, each must have its characteristic beauty. It has nothing else to depend on. But in combination, the beauty of the individual is not required; the whole clump together must produce the effect.

To enumerate all the sources of beautiful contrast which contribute to produce this effect, might be difficult. I shall cursorily suggest a few.

In the first place, the relative situation of trees, with regard to each other, should be considered. Three trees, or more, standing in a line, are formal. In the natural wood, you rarely see this formality. And yet even three trees in a line will be greatly assisted by the lines of the several trunks taking different directions; and by the various forms, distances, and growth of the trees.

If three trees do not stand in a line, they must of course stand in a triangle; which produces a great variety of pleasing forms.

If a fourth tree be added, it stands beautifully near the middle of the triangle, of whatever form the triangle may be. If it be equilateral, and the tree placed exactly in the middle, there are three points as you walk round the triangle, from which it will appear offensively regular. Remarks, however, of this kind affect only young trees, while their stems are tall and similar. As they increase, their different modes of growth—the swelling of their roots—the habits they contract from wind—their ramification—their lateral branches, and other accidental circumstances, introduce endless varieties among them, and blot out many of those little formalities, which attend their youth; though, after all, the artificial clump will rarely attain the beauty of the natural one.

If the clump consist of still more trees than four, a greater variety among the stems will of course take place; double triangles, irregular quincunxes, and other pleasing shapes, which may be seen exemplified in every wood of natural growth.

The branches also are as much a source of contrast as the stem. To be picturesque, they must intermingle with each other without heaviness; they must hang loosely, but yet with varied looseness on every side; and if there be one superior apex, there may be two or three others that are subordinate, according to the size of the clump.

Different kinds of trees also, in the same clump, occasion often a beautiful contrast. There are few trees which will not harmonize with trees of a different kind; though perhaps the most simple and beautiful contrasts arise from the various modes of growth in the same species. We often see two or three oaks intermingle their branches together in a very pleasing manner. When the beech is full grown, it is generally (in a luxuriant soil at least) so heavy, that it rarely blends happily, either with its own kind or with any other. The silver fir, too, we have observed, is a very unaccommodating tree. So also are other firs; indeed all that taper to a point. Not so the pine race: they are clump-headed, and unite well in composition. With these also the Scotch fir leagues; from little knots of which we often see beautiful contrasts arise. When they are young and luxuriant, especially if any number of them above four or five are planted together, they generally form a heavy murky spot; but as they acquire age, this heaviness goes off, the inner branches decay, the outward branches hang loosely and negligently; and the whole has often a good effect, unless they have been planted too closely. I am rather doubtful how far deciduous trees mix well in a clump with evergreens; and yet we sometimes see a natural good effect of light and shade, from the darkness of the fir contrasting agreeably with the sprightly green of a deciduous tree just coming into leaf. In this, however, I am clear, that if they are mixed, they ought not to be planted, as they often are, alternately, but each kind together.

Contrasts, again, arise from the mixture of trees of unequal growth, from a young tree united with an old one, a stunted tree with a luxuriant one, and sometimes from two or three trees, which in themselves are ill shaped, but when combined are pleasing. Inequalities of all these kinds are what chiefly give Nature's planting a superiority over art.

The form of the foliage is another source of contrast. In one part, where the branches intermingle, the foliage will be interwoven and close; in another, where the boughs of each tree hang separately, the appearance will be light and easy.

But whatever beauty these contrasts exhibit, the effect is totally lost unless the clump be well balanced. This is as necessary in a combination of trees as in a single tree.* The clump is considered as one object; and the support of the whole must depend on the several trunks and leading branches of which it is composed. We do not expect the minutiæ of scale and weight; if no side preponderate, so as to hurt the eye, it is enough. Unless, however, the clump have suffered some external injury, it is seldom deficient in point of balance. Nature always conducts the stems and branches in such easy forms, wherever there is an opening, and fills up all with so much nice contrivance, and, at the same time, with so much picturesque irregularity, that we rarely wish for an amendment in her works. So true indeed this is, that nothing is so dangerous as to take away a tree from a clump. You will infallibly destroy the balance, which can never again be restored.

This, as a general observation, is perfectly just, so far as regards the works of Nature. In the artificial operations of landscape gardening, however, the case is different. We conceive that the best way to produce clumps, or large groups of trees, or smaller groups, or dropped single trees in a lawn, so as ultimately to resemble those of Nature, is to plant the artificial clump, or group, of greater magnitude than that which is prospectively wanted, and then, by a frequent and judicious use of the axe, the best individuals, and those most calculated to associate and to harmonize together, are left in permanent possession of the ground. This mode, be it understood, requires continued attention—an attention unremitting, from the earliest years of the plantation, till nothing remains but the permanent trees, otherwise, from too long confinement, or other causes, awkward, stiff, and unnatural forms may be produced.

Thus far we have considered a clump as a single independent object, as the object of a foreground, consisting of such a confined number of trees as the eye can fairly include at once. And when trees strike our fancy, either in the wild scenes of Nature, or in the improvements of art, they will ever be found in combinations similar to these.

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* See page 48.

When the clump grows larger, it becomes qualified only as a remote object, combining with vast woods, and forming a part of some extensive scene, either as a first, a second, or a third distance.

The great use of the larger clump is to lighten the heaviness of a continued distant wood, and connect it gently with the plain, that the transition may not be too abrupt. All we wish to find in a clump of this kind, is proportion and general form.

With respect to proportion, the detached clump must not encroach too much on the dignity of the wood it aids, but must observe a proper subordination. A large tract of country covered with wood, will admit several of these auxiliary clumps of different dimensions. But if the wood be of a smaller size, the clumps also must be smaller and fewer.

With regard to the general form of the larger clump, we observed that in a single tree we expected elegance in the parts. In the smaller clumps this idea was relinquished, and in its room we expected a general contrast in trunks, branches, and foliage. But as the clump becomes larger, and recedes in the landscape, all these pleasing contrasts are lost, and we are satisfied with a general form. No regular form is pleasing. A clump on the side of a hill, or in any situation where the eye can more easily investigate its shape, must be circumscribed by an irregular line; in which it is required that the undulations, both at the base and summit of the clump, should be strongly marked, as the eye probably has a distinct view of both. But if it be seen only on the top of a hill, or along the distant horizon, (as in these situations the base is commonly lost in the varieties of the ground,) a little variation in the line which forms the summit, so as to break any disagreeable regularity there, will be sufficient.

As a large tract of wood requires a few large clumps to connect it gently with the plain, so these large clumps themselves require the same service from a single tree, or a few trees, according to their size.

These observations respect chiefly the vast scenes of

Nature, which are but little under the control of art. While they assist us, however, in judging of the natural scene, they are in many respects applicable to the embellished one. To the painter's use, they are most adapted, whose business it is to introduce his trees in the happiest manner, whether he spread them over his canvass in vast woods, or break them into smaller or larger combinations.

We have often seen a great deal of time and labour wasted by landscape improvers, in varying the outline of plantations, with a degree of nicety altogether useless in producing the ultimate effect; nay, we must confess, that we ourselves fell into this error in our earlier days of landscape gardening, whilst sketching out and embodying our ideas, with a view to the production of pleasing scenes. It is quite natural for the improver of landscape, to lay out the boundary of a plantation according to that preconceived picture in his mind, which he would wish the full grown wood eventually to produce, altogether forgetting that the *germ* of the scene, and the scene in its *full grown vigour*, are, in fact, entirely different things. He vexatiously sweeps the line of his sunk fence, so as to produce ten thousand minute bays and promontories, some ten or twenty of which, perhaps, will be ultimately required to be taken together to form one of those deep recesses, or bold projections, which are calculated to have effect in a grown wood. A similar want of knowledge of what should be, also induces him to mix up his different kinds of trees with a regular attention to the due proportion of each; so that when he afterwards comes to the work of thinning out, he must either sacrifice his intended effect, or extirpate some of the very best trees of one kind, in order to preserve inferior trees, of some other particular species which he may wish to remain. These observations, both as to the line of fence and the mode of mingling the trees, must, of course, be modified according to the size of the subject operated upon. But, in a large grove, or wood, we think that, whilst we should certainly endeavour, even for present satisfaction, to sweep the outline of our sunk fence so as to humour the natural swellings, or other circumstances, of the ground; yet we would do so, as much as possible, boldly, and not in a pitiful and niggling manner; and, instead of mingling our different sorts of trees, so as to produce, in spite of ourselves, not variety, but *one uniform mixture*, resembling the hue of some uncertain-coloured cloth, we should plant the various species in greater or lesser irregular groups throughout the wood, by which means a natural looking variety of form, of foliage, and of tint will ultimately be produced. And, perhaps, the best rule of direction for doing this, is that afforded by the study of the different parts of the ground to be planted, which naturally teaches us to plant the different kinds of trees as much as possible in those soils for which each is respectively the best adapted. As to planting hills, we conceive that much must depend on the size and height of the elevation you have to work upon. For instance, we think that, in the case of any thing of the magnitude of a Highland hill, where hundreds, or even thousands of acres of plantation are required, the wooding should be brought well down, to cover the base of the steep, and that great care should be taken to make the line of junction between the wooded slope, or steep, and the open level, as natural as possible, which is to be accomplished by adopting an easy, sweeping line, generally following the irregularities of the base, but occasionally receding upwards for a certain space, and, more rarely perhaps, protruding itself into the plain; whilst the upper part of the plantation should be so irregularly scattered off, as to give that appearance which, in truth, will often be the reality; we mean, that the wooding has reached the verge of those regions where trees can no longer exist, and thus the bare summit of the mountain, rising above this point, will gain, in imagination, even a yet greater height than it actually possesses in perpendicular feet; and the very smallness of the trees, will aid in keeping up this illusion. It is only on smaller hills, on hills on the top of which wood may be expected to thrive, and on hills especially which are surrounded by much loftier elevations, that we should recommend plantation to be carried entirely over the summit. But this is a subject which has so many branches, and so many modifications, that it is quite impossible to discuss it here at that length which it would demand.

SECTION II.

From Clumps we naturally proceed to Park Scenery, which is generally composed of combinations of clumps, interspersed with lawns. It is seldom composed of any large district of wood, which is the characteristic of forest scenery.

The park, which is a species of landscape little known, except in England, is one of the noblest appendages of a great house.

Nothing gives a mansion so much dignity as these home demesnes, or contributes more to mark its consequence. A great house, in a course of years, naturally acquires space around it. A noble park, therefore, is the natural appendage of an ancient mansion.

We formerly had occasion to notice, that the rich green velvet turf which characterizes an English park, is no where to be found, after leaving Great Britain, till it is accidentally met with in some nook of a Swiss valley, or on the summit of some Apennine. The idea of some hundred acres of ground being set apart for pleasure, around the residence of a nobleman or gentleman, is equally confined to these islands.

To the size and grandeur of the house, the park should be proportioned. Blenheim Castle, with a paddock around it, or a small villa in the middle of Woodstock Park, would be equally out of place.

The house should stand nearly in the centre of the park, that is, it should have ample room about it on every side. Petworth House, one of the grandest piles in England, loses much of its grandeur from being placed at the extremity of the park, where it is elbowed by a church-yard.

The exact spot depends entirely on the ground. There are grand situations of various kinds. In general, houses are built first, and parks are added afterwards by the occasional removal of enclosures. A great house stands most nobly on an elevated knoll, from whence it may overlook the distant country, while the woods of the park screen the regularity of the intervening cultivation. Or it stands well on the side of a valley, which winds along its front, and is adorned with wood, or a natural stream hiding and discovering itself among the clumps at the bottom of the vale. Or it stands with dignity, as Longleat does, in the centre of demesnes, which shelve gently down to it on every side. Even on a dead flat I have seen a house draw beauties around it. At the seat of the late Mr Bilson Legge, (now Lord

Stawel's,) in the middle of Holt Forest, a lawn unvaried by a single swell, is yet varied with clumps of different forms, receding behind each other in so pleasing a manner as to make an agreeable scene.

By these observations, I mean only to shew, that in whatever part of a park a house may have been originally placed, it can hardly have been placed so awkwardly, but that in some way or other the scenery may be happily adapted to it. There are some situations indeed so very untoward, that scarce any remedy can be applied, as when the front of a house immediately urges on a rising ground. But such awkward situations are rare; and, in general, the variety of landscape is such, that it may almost always be brought, in one form or other, to serve the purposes of beauty. The many improvements of the ingenious Mr Brown, in various parts of England, bear witness to the truth of these observations. The beauty, however, of park scenery is undoubtedly best displayed on a varied surface, where the ground swells and falls; where hanging lawns, screened with wood, are connected with valleys; and where one part is continually playing in contrast with another.

As the park is an appendage of the house, it follows that it should participate of its neatness and elegance. Nature, in all her great walks of landscape, observes this accommodating rule. She seldom passes abruptly from one mode of scenery to another, but generally connects different species of landscape by some third species, which participates of both. A mountainous country rarely sinks immediately into a level one: the swellings and heavings of the earth grow gradually less. Thus, as the house is connected with the country through the medium of the park, the park should partake of the neatness of the one, and of the wildness of the other.

We conceive that there is no general principle in landscape gardening more important, or more necessary to be continually kept in view, than that which Mr Gilpin here lays down. We think, that, in making the approaches to a mansion even from the wildest scene, the greatest care should be taken that art shall so very gradually develope itself, that the eye of a stranger may almost be unconscious of the manner in which it has been led from the ruggedness and the untamed luxuriance of Nature, to the rolled gravel, the shaven turf, the scented shrubs, and the odoriferous flower beds, which usher you into the grandeur of the hall, and thence to all the luxurious polish of the drawing-room. We have often during our lives experienced the grievous outrage committed on our feelings, by things, very good in themselves, being placed in improper situations. This applies to all human arrangement; but to no arrangement more than to that of the constituent parts of landscape, which are but too frequently mixed up with most incongruous absurdity.

As the park is a scene either planted by art, or, if naturally woody, artificially improved, we expect a beauty and contrast in its clumps which we do look for in the wild scenes of Nature. We expect to see its lawns and their appendages contrasted with each other, in shape, size, and disposition; from which a variety of artificial scenes will arise. We expect, that when trees are left standing as individuals, they should be the most beautiful of their kind, elegant and well balanced. We expect that all offensive trumpery, and all the rough luxuriance of undergrowth, should be removed, unless where it is necessary to thicken or connect a scene, or hide some staring boundary. In the wild scenes of Nature, we have grander exhibitions, but greater deformities than are generally met with in the works of art. As we seldom meet with these sublime passages in improved landscape, it would be unpardonable if any thing disgusting should appear.

In the park scene we wish for no expensive ornament. Temples, Chinese bridges, obelisks, and all the laboured works of art, suggest inharmonious ideas. If a bridge be necessary, let it be elegantly plain. If a deer shed or a keeper's lodge be required, let the fashion of each be as simple as its use. Let nothing appear with ostentation or parade. Within restrictions, however, of this kind, we mean not to include piles of superior grandeur. Such a palace as Blenheim Castle distributes its greatness far and wide. There, if the bridge be immense, or the obelisk superb, it is only what we naturally expect. It is the chain of ideas properly carried on, and gradually lost. My remarks regard only such houses as may be rich, indeed, and elegant, but have nothing in them of superior magnificence.

One ornament of this kind I should be inclined to allow, and that is a handsome gate at the entrance of the park; but it should be proportioned in richness and elegance to the house, and should also correspond with it in style. It should raise the first impression of what you are to expect. Warwick Castle requires a mode of entrance very different from Lord Scarsdale's at Kettlestone, and Burleigh House very different from both. The park gate of Sion House is certainly elegant; but it raises the idea of a style of architecture, which you must drop when you arrive at the house.

Not only should the style of architecture be as much as possible in harmony with that of the house you are about to approach, but it should never be on a scale of grandeur greater than that which corresponds with the house, otherwise expectations will be raised, only to be disappointed. The safest side to err upon is that of modesty of pretension.

The road also through the park should bear the same proportion. It should be spacious or moderate, like the house it approaches. Let it wind; but let it not take any deviation which is not well accounted for. To have the convenience of winding along a valley, or passing a commodious bridge, or avoiding a wood, or a piece of water, any traveller would naturally wish to deviate a little; and obstacles of this kind, if necessary, must be interposed. Mr Brown was often very happy in creating these artificial obstructions.

The road of approach, too, ought to be so constructed as never to raise ideas of magnificence which are not to be fully gratified. Not only the style of the approach, but its length, should be proportioned to the magnitude and grandeur of the mansion. To be carried, winding for miles, through woods, wildernesses, and lawns, in order to arrive at some humble commonplace mansion, is quite enough to beget disgust and contempt when we reach it. We think that the gate, and its lodge, or lodges, should be exceeded by the road of approach; that the approach should teach us to expect a house a degree below that which it finally discovers to us; that the exterior of the mansion should be surpassed, in some degree, by its interior splendour; and that the comfort and hospitality enjoyed within, should be rather a point above than one iota below that line which previous appearances have led us to expect.

From every part of the approach, and from the ridings and favourite walks about the park, let all the boundaries be secreted. A view of paling, though in some cases it may be picturesque, is in general disgusting.

If there be a natural river, or a real ruin in the scene, it may be a happy circumstance: let the best use be made of it; but I should be cautious in advising the creation of either. At least, I have rarely seen either ruins or rivers well manufactured. Mr Brown, I think, has failed more in river making than in any of his attempts. An artificial lake has sometimes a good effect; but neither propriety nor beauty can arise from it, unless the heads and extremities of it are perfectly well managed and concealed; and, after all, the success is hazardous. You must always suppose it a portion of a larger piece of water; and it is not easy to carry on the imposition. If the house be magnificent, it seldom receives much benefit from an artificial production of this kind. Grandeur is rarely produced:

> ——— Seldom art
> Can emulate that magnitude sublime
> Which spreads the native lake; and failing there,
> Her works betray their character and name,
> And dwindle into pools ———

But, in our opinion, an artificial piece of water, if naturally constructed, is always better than no piece of water at all. Of course, the larger, and the more diversified it is, the more pleasing it will be. The smallest sheet of water, however, is valuable and interesting, were it only because its surface gives back the trees on its margin, the blue ether above, and the continual motion of the fleecy clouds, the images of which are carried floating across its bosom. We have often thought that one of the happiest ideas which the fervid imagination of Madame de Staël ever produced, was that of the fountain of Trevi, with its continually rushing waters, being the "soul of the Eternal City." For our parts, we conceive that a place where the animating rush of water is never heard, may almost be compared to a body devoid of soul. But perhaps it may be worked up into a sort of semi-vitality by the production of such an extent of artificial water as the natural circumstances of the ground will allow. As to river making, we are inclined to go even farther than Mr Gilpin in our abhorrence of any such attempt. In the manufacture of an artificial sheet of water, although it may be always well to conceal the art as much as possible, yet even the detection of the dam dyke is of little importance, seeing that its utility is apparent, and that the object of creating a liquid mirror is always honestly manifest, and almost always successful. But the creation of an artificial river, is the attempt to deceive the spectator by a trick; and the more successful the attempt may be for a time, the greater is the disappointment when the cheat is detected, as detected it is sure to be, ere long; and the longer the deception is kept up, the more mortifying and humiliating the discovery will prove, when it does arrive.

The most natural inhabitants of parks are fallow deer, and very beautiful they are; but flocks of sheep and herds of cattle are more useful, and, in my opinion, more beautiful. Sheep particularly are very ornamental in a park. Their colour is just that dingy hue which contrasts with the verdure of the ground; and the flakiness of their wool is rich and picturesque. I should wish them, however, to wear their natural livery, and not to be patched with letters, and daubed over with red ochre. To see the side of a hill spread with groups of sheep, or to see them through openings among the boles of trees, at a little distance, with a gleam of light falling upon them, is very picturesque.

As the garden, or pleasure ground, as it is commonly called, approaches nearer to the house than the park, it takes of course a higher polish. Here the lawns are shorn, instead of being grazed; the roughness of the road is changed into an elegant gravel walk; and knots of flowers and flowering shrubs are introduced, yet blended with clumps of forest trees, which connect it with the park. Single trees also take their station here with great propriety. The spreading oak or elm are no disgrace to the most ornamented scene. It is the property of these noble plants to harmonize with every species of landscape. They equally become the forest and the lawn; only here they should be beautiful in their kind, and luxuriant in their growth. Neither the scathed nor the unbalanced oak would suit a polished situation.

Here, too, if the situation suits it, the elegant temple may find a place. But it is an expensive, a hazardous, and often a useless decoration. If more than one, however, be introduced in the same view, they crowd the scene, unless it be very extensive. More than two should in no case be admitted. In the most polished landscape, unless nature and simplicity lead the way, the whole will be deformed.

We think that temples are very doubtful objects in British scenery, where they can in no wise beget any rational association in harmony with the country. In Italy, or in Greece, we look for temples, as in China we look for pagodas; but, speaking of the general question, we are bold enough to say, that the pagoda, or the American log house, or the South Sea morai, are as much in place in British park scenery as the temple, however exquisite may be its architecture. But if we are resolved to indulge ourselves in the erection of any such Grecian or Roman object in our park or pleasure grounds, we must study to make a scene for its reception, and to prepare the mind, in the approach to it, for the due nurture and entertainment of those associations which it must naturally excite. We have seen such attempts best succeed where there were certain natural features in the scene to found upon, which had a characteristic resemblance to certain scenes, which were engraven on our minds by foreign travel. In minds filled with such scenes as these, it is easy to perceive that a very legitimate source of pleasure may be thus produced, by the creation of such objects.

In making these remarks, we would desire to be understood as by no means touching on the question of the propriety of introducing Grecian architecture into our mansions, and, above all, into our cities, which we conceive to be quite defensible upon entirely different grounds of association.

SECTION III.

From scenes of Art let us hasten to the chief object of our pursuit, the wild scenes of Nature,—the wood, the copse, the glen, and open grove.

Under the term Wood, we include every extensive combination of forest trees in a state of Nature. All such combinations, though without the privilege of forests, compose the same kind of scenery. The description, therefore, of such scenes will come most properly under the head of forest views, on which we shall hereafter dwell at large. At present let us examine the smaller combinations; and first the copse.

The Copse is a species of scenery composed commonly of forest trees, intermixed with brushwood, which latter is periodically cut down in twelve, thirteen, or fourteen years. In its dismantled state, therefore, nothing can be more forlorn than the copse. The area is covered with bare roots and knobs, from which the brushwood has been cut; while the forest trees, intermingled among them, present their ragged stems, despoiled of all their lateral branches, which the luxuriance of the surrounding thickets had choked.

In a very short time, however, all this injury which the copse hath suffered is repaired. One winter only sees its disgrace. The next summer produces luxuriant shoots; and two summers more restore it almost to perfect beauty.

It matters little of what species of wood the copse is composed; for as it seldom, at best, exhibits a scene of picturesque beauty, we rarely expect more from it than a shady sequestered path, which it generally furnishes in great perfection. It is among the luxuries of Nature, to retreat into the cool recesses of the full grown copse from the severity of a meridian sun, and to be serenaded by the humming insects of the shade, whose continuous song has a more refreshing sound than the buzzing vagrant fly, which wantons in the glare of day, and, as Milton expresses it,

> ———winds her sultry horn.

In distant landscape the copse hath seldom any effect. The beauty of wood, in a distant view, arises, in some degree, from its tuftings, which break and enrich the lights; but chiefly from its contrast with the plain, and from the grand shapes and forms, occasioned by the retiring and advancing parts of the forest, which produce vast masses of light and shade, and give effect to the whole.

These beauties appear rarely in the copse. Instead of that rich and tufted bed of foliage, which the distant forest exhibits, the copse presents a meagre and unaccommodating surface. It is age which gives the tree its tufted form, and the forest its effect. A nursery of saplings produce it not, and the copse is little more. Nor does the intermixture of full grown trees assist the appearance. Their clumpy heads blend ill with the spiry tops of the juniors. Neither have they any connection with each other. The woodman's judgment is shewn in leaving the timber trees at proper intervals, that they may neither hinder each other's growth, nor the growth of the underwood. But the woodman does not pretend to manage his trees with a view to picturesque beauty; and from his management, it is impossible they should produce a mass of light and shade.

Much may be done towards the preservation of the beauty of a copsed wood, and that, too, without doing it material injury in point of economy or of value, by leaving one or two well disposed natural groups among the single standard trees. Of the beautiful effect of this we can speak from experience.

Besides, the copse forms no contrast with the plain, nor presents those beautiful projections and recesses which the skirts of the forest exhibit. A copse is a plot of ground, portioned off for the purpose of nurturing wood. Of course, it must be fenced from cattle; and these fences, which are in themselves disgusting, generally form the copse into a square, a rhomboid, or some other regular figure; so that we have not only a deformity, but a want also of a connecting tie between the wood and the plain. Instead of a softened undulating line, we have a harsh fence.

The best effect which the copse produces is on the lofty banks of a river. I have the Wye particularly in my view. In navigating such a river, the deficiences of this mode of scenery, as you view it upwards from a boat, are lost; and in almost every state it has a good effect. While it enriches the bank, its uncouth shape, unless the fence is too much in view, and all its other unpleasant appearances, are concealed.

When a winding walk is carried through a copse, which must necessarily in a course of years, even in point of picturesque beauty, be given to the axe, shall the whole be cut down together? Or shall a border be left, as is sometimes done, on each side of the walk?

This is a difficult question; but I think all should go together. Unless the border you leave be very broad, it will have no effect, even at present. You will see through it; it will appear meagre, and will certainly never unite happily with the neighbouring parts when they begin to grow; at least, let it not stand longer than two years. The rest of the copse will then be growing beautiful, and the border may be dispensed with till it is replaced. But the best way certainly is, if you have courage, to cut the whole down together. In a little time, as we observed above, it will recover its beauty.

We think that there cannot be a doubt that the whole should go,—unless, perhaps, a few single stems, or groups of stems, of the copse should be left, to rise into trees. But if this be done, then it should be done, not merely by the side of the path, but generally throughout the copse; and if a few individuals of each crop of copse shoots were left at each cutting, the variety in the growth and ages of the standard trees would, perhaps, be rather an advantage than otherwise.

SECTION IV.

From the copse we proceed to the Glen. A wide open space between hills, is called a vale. If it be of smaller dimensions, we call it a valley. But when this space is contracted to a chasm, it becomes a glen.

These are relative terms; but as the word *glen* may, perhaps with some justice, be said to be of Scottish origin, we may the more easily be permitted to remark, that *chasm* is much too confined a word to explain it. We should say, that the gradation from extreme width downwards should be thus arranged,—strath, vale, dale, valley, glen, dell, ravine, chasm. In the strath, vale, and dale, we may expect to find the large, majestic, gently flowing river, or even the greater or smaller lake. In the glen, if the river be large, it flows more rapidly, and with greater variety. In the dell, the stream is smaller. In the ravine, we find the mountain torrent and the waterfall. In the chasm, we find the roaring cataract, or the rill, bursting from its haunted fountain. The chasm discharges its small tribute into the ravine, whilst the ravine is tributary to the dell, and thence to the glen; and the glen to the dale, vale, and strath. Going upwards, the ravine may be supposed to terminate in the chasm. "He arrived at length in a narrow and secluded cleuch," says the immortal author of Waverley, in his tale of *The Monastery*, "or deep ravine, which ran down into the valley, and contributed a scanty rivulet to the supply of the brook with which Glendearg is watered. Up this he sped with the same precipitate haste which had marked his departure from the tower; nor did he pause and look around, until he had reached the fountain from which the rivulet had its rise. Here Halbert stopped short, and cast a gloomy, and almost a frightened, glance around him. A huge rock rose in front, from a cleft of which grew a wild holly tree, whose dark green branches rustled over the spring which arose beneath. The banks on either hand rose so high, and approached each other so closely, that it was only when the sun was at its meridian height, and during the summer solstice, that its rays could reach the bottom of the chasm in which he stood. But it was now summer, and the hour was noon, so that the unwonted reflection of the sun was dancing in the pellucid fountain." In this passage the author uses the word valley synonymously with glen; but this is because he has no occasion at the moment to mark the gradation.

A glen, therefore, is most commonly the offspring of a mountainous country; though it is sometimes found elsewhere, with its common accompaniments of woody banks, and a rivulet at the bottom. These circumstances, it is evident, admit infinite variety. The glen may be more or less contracted. It may form one single sweep, or its deviations may be irregular. The wood may consist of full grown trees, or of underwood, or of a mixture of both. The path which winds through it, may run along the upper part or the lower. Or, lastly, the rivulet may foam among rocks, or it may murmur among pebbles; or it may form transparent pools, overhung with wood; or, which is often the case, it may be totally invisible, and an object only of the ear.

The most beautiful circumstances that attend the internal parts of a glen, are the glades, or openings, which are found in it. If the whole were a thicket, like the full grown copse, little beauty would result. An agreeable shade alone, in that case, must satisfy our expectations. But the glen, whose furniture is commonly of more fortuitous growth than that of the copse, and not so subject to periodical defalcations, exhibits generally more beautiful scenery. Particularly it abounds with frequent openings. The eye is carried down, from the higher grounds, to a sweep of the river—or to a little gushing cascade—or to the face of a fractured rock, garnished with hanging wood—or perhaps to a cottage, with its scanty area of lawn falling to the river on one side, and sheltered by a clump of oaks on the other; while the smoke, wreathing behind the trees, disperses and loses itself as it gains the summit of the glen. Or, still more beautifully, the eye breaks out at some opening, perhaps into the country, enriched with all the varieties of distant landscape, — plains and woods melting together — a winding river — blue mountains — or perhaps some bay of the sea, with a little harbour and shipping.

As an object of distance also, the woody glen has often a good effect, — climbing the sides of mountains, breaking their lines, and giving variety to their bleak and barren sides.

In many places you see the glen under the hands of improvement; and when you happen to have a scene of this kind near your house, you cannot well have a more fortunate circumstance. But great care should be taken not to load it with ornament. Such scenes admit little art: their beauty consists in their natural wildness; and the best rule is, to add little, but to be content with removing a few deformities and obstructions. A good walk or a path there must be, and the great art will consist in conducting it, in the easiest and most natural way, to the spot where the cascade, the rock, or any other object which the glen exhibits, may be seen to the best advantage. If a seat or two be thought necessary, let them be of the rudest materials, and their situation no way forced. I have often seen semicircular areas, on these occasions, adapted to elegant seats, which have been fixed, either where openings happened to be presented, or were purposely cut through the woods. All this is awkward and disgusting. Let no formal preparation introduce a view: a parading preface always injures a story. The eye receives more pleasure from the casual objects of its own notice, than from objects perhaps of more real beauty forced upon it with parade and ostentation.

But though we are averse to load these sweet recesses of Nature with false ornaments, yet if such scenes make a part of the immediate environs or pleasure ground of a house, a proper degree of ornament will of course be required. The walk must be more artificial—its borders may be spread here and there, as in other decorated places, with flowers and flowering shrubs — the seats may be more elegant—and a temple, or other building, may perhaps find a place: but still the same chaste spirit must regulate here, which presides over all other improvements. To run into excess in ornament, is one of the most obvious errors of false taste. We frequently see the effect both of the natural scene and of the artificial representation destroyed merely by adorning.

SECTION V.

As the glen is sometimes found in the country we are about to describe, it was necessary just to mention it as a distinct species of woodland scenery; yet as it is not one of the common features of the country, we shall dwell no longer upon it, but hasten to the open Grove. The open grove is composed of trees arising from a smooth area, which may consist either of pines or of the deciduous race. I have seen beautiful groves of both. The pine grove will always be dry, as it is the peculiar quality of its leaves to suck up moisture: but in lightness, variety, and general beauty, the deciduous grove excels. If, indeed, you wish to compose your grove in the gloomy style, the pine race will best serve your purpose.

The open grove seldom makes a picturesque appearance. In distant scenery, indeed, it may have the effect of other woods; for the trees, of which it is formed, need not be separated from each other, as in the copse; but being well massed together, may receive beautiful effects of light. When we enter its recesses, it is not so well calculated to please. There, it wants variety, and that not only from the smoothness of the surface, but from the uniformity of the furniture—at least if it be an artificial scene, in which the trees, having been planted in a nursery, grow all alike, with upright stems. And yet a walk, upon a velvet turf, winding at pleasure among these natural columns, whose twisting branches at least admit some variety, with a spreading canopy of foliage over the head, is pleasing, and in hot weather refreshing. Sometimes we find the open grove of natural growth: it is then more various and irregular, and becomes, of course, a more pleasing scene. And yet when woods of this kind continue, as they sometimes do, in unpeopled countries, through half a province, they become tiresome, and prove that it is not wood, but variety of landscape, that delights the eye.

Sometimes the grove, in the neighbourhood of great houses, demands a little embellishment; and as it is naturally less rude than the glen, it is therefore more patient of improvement. A seat, or a temple, according to the size and situation of the place, may here be a proper ornament; but if the turf be neat (though we do not often find it so under trees) or close grazed with sheep or deer, no artificial walks are necessary. If the scene command no distant landscape, nor any view of consequence at hand, it will require in itself a greater share of ornament: but still simplicity must be the leading idea. One thing is absolutely necessary to complete the idea of a grove, which is, that its boundaries should be concealed. It is intended for a sequestered place, and should answer that idea.

I remember meeting with an ornamented scene of this kind, which was very pleasing. The grove extended along the brow of a gentle declivity, and assumed, from that circumstance, a dark, close, gloomy appearance in its deeper recesses; though its opening on the lawn was light and airy, and agreeably connected with the ground. In the front of the grove stood a rude temple of Pan; and the lawn being a neat sheep-walk, the whole, though highly polished, was characteristic, harmonious, and beautiful.

The pleasing tranquillity of groves hath ever been in high repute among the innocent and refined part of mankind:

——— Groves were planted to console at noon
The pensive wanderer in their shades. At eve
The moonbeam, sliding softly in between
The sleeping leaves, is all the light he wants
For meditation ———

Indeed, no species of landscape is so fitted for meditation. The forest attracts the attention by its grandeur, and the park scene by its beauty; while the paths through copses, dells, and thickets, are too close, devious, interrupted, and often too beautiful, to allow the mind to be at perfect rest. But the uniform sameness of the grove leaves the eye disengaged; and the feet wandering at pleasure, where they are confined by no path, want little direction. The mind, therefore, undisturbed, has only to retire within itself. Hence the philosopher, the devotee, the poet, all retreated to these quiet recesses; and,

——— from the world retired,
Conversed with angels and immortal forms.

In classic times the grove was the haunt of gods:

> ——— Habitarunt dii quoque sylvas.*

And in the days of Nature, before art had introduced a kind of combination against her, man had no idea of worshipping God in a temple made with hands. The *templum nemorale* † was the only temple he knew.

> ——— In the resounding wood
> All vocal beings hymn'd their equal God.

And to this idea, indeed, one of the earliest forms of the artificial temple seems to have been indebted. Many learned men ‡ have thought the Gothic arch of our cathedral churches was an imitation of the natural grove. It arises from a lofty stem, or from two or three stems, if they be slender; which being bound together, and spreading in every direction, cover the whole roof with their ramification. In the close recesses of the beechen grove, we find this idea the most complete. The lofty narrow aisle — the pointed arch — the clustered pillar, whose parts separating without violence, diverge gradually to form the fretted roof, — find there perhaps their earliest archetype.

The very ingenious, as well as highly scientific, Sir James Hall, Bart. late president of the Royal Society of Edinburgh, has not only established the probability of this theory in his very entertaining book *On the Origin, History, and Principles of Gothic Architecture*, but he actually put the question to the *experimentum crucis*, by planting willows, according to a particular arrangement, at his seat of Dunglass, in Haddingtonshire, and then wreathing them, as they grew, into those regular architectural forms possessed by the Gothic cathedral, so as to produce a most beautiful living Gothic chapel.

Groves, too, were the scenes of superstition, as well as of religion. Here the priests of Baal performed their profane rites; and here the backsliding Israelites used often to screen their idolatries. The strong ideas of superstition which these gloomy retreats impressed upon the ignorance of early ages, are finely touched by Virgil. The passage I allude to is in the Eighth Book, where the story of Evander is introduced. The whole country was then, as unpeopled countries commonly are, a mere forest; and as the groves and woods presented themselves on every side, the venerable chief, describing each scene to his illustrious guest, annexes to it some tale of horror, or some circumstance of religious awe :

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* Even the very gods inhabited groves.

† The grove used as a temple.

‡ See a note in Bishop Warburton's edition of Pope's Epistle to Lord Burlington.

Hinc lucum ingentem, quem Romulus acer asylum
Rettulit, et gelidâ monstrat sub rupe Lupercal,
Parrhasio dictum Panos de more Lycæi.
Necnon et sacri monstrat nemus Argileti :
Testatúrque locum, et lethum docet hospitis Argi.
Hinc ad Tarpeiam sedem et capitolia ducit,
Aurea nunc, olim sylvestribus horrida dumis.
Jam tum religio pavidos terrebat agrestes
Dira loci; jam tum sylvam, saxúmque tremebant.
Hoc nemus, hunc, inquit, frondoso vertice collem.
(Quis deus, incertum est) habitat deus. Arcades ipsum
Credunt se vidisse Jovem, cum sæpe nigrantem
Ægida concuteret dextra, nimbosque cieret.*

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* ——— He shew'd
A grove which Romulus, in after times,
Made an asylum. Near it rose a rock,
Bedew'd with weeping springs, sacred to Pan;
And once more sacred to the injured shade
Of murder'd Argiletus. Then he call'd
The gods to witness, that his soul abhorr'd
The impious deed. To the Tarpeian rock
He led the hero next, where now in pomp
The capital upheaves its splendid towers;
Then but a thicket, interwoven close
With Nature's wildest products. Yet e'en then
A superstitious awe and holy fear
O'erspread the scene. Doubtless some god (what god
We know not) holds his residence
Upon the wooded crest of yon dark grove.
Oft when the storm, with brooding darkness, o'er
That wood arises, the Arcadians see,
Or think they see, the mighty Jove himself
Rolling his thunder, and with bare right arm
Flashing his lightnings on a guilty land.

I cannot conclude this section better than with another quotation, very beautifully adapted to the subject:

———— Meditation here
May think down hours to moments. Here the heart
May give a useful lesson to the head;
And learning wiser grow without its books.
Knowledge and wisdom, far from being one,
Have ofttimes no connection. Knowledge dwells
In heads replete with thoughts of other men:
Wisdom, in minds attentive to their own.
Knowledge, a rude unprofitable mass,
The mere materials with which wisdom builds,
Till smoothed, and squared, and fitted to its place,
Does but encumber whom it seems t' enrich.
Knowledge is proud that it has learn'd so much:
Wisdom is humble that it knows no more.
Books are not seldom talismans and spells,
By which the magic art of shrewder wits
Holds an unthinking multitude enthrall'd.
Some to the fascination of a name
Surrender judgment hoodwink'd. Some the style
Infatuates, and through labyrinths and wilds
Of error leads them by a tune entranced;
While sloth seduces more, too weak to bear
The insupportable fatigue of thought;
And swallowing, therefore, without pause or choice,
The total grist unsifted — husks, and all.
But trees, and rivulets, and haunts of deer,
And sheep-walks, populous with bleating lambs,
And groves, in which the primrose ere her time
Peeps through the moss that clothes the hawthorn root,
Deceive no student. Wisdom there, and truth,
Not shy as in the world, and to be won
By slow solicitation, seize at once
The roving thought, and fix it on themselves.

SECTION VI.

Having thus considered various kinds of woody scenery, and traced the peculiar beauties of each, we proceed next to the Forest, which in a manner comprehends them all. There are few extensive forests which do not contain, in some part or other, a specimen of every species of woody landscape. The wild forest view, indeed, differs essentially from the embellished one, though sometimes we find even the forest lawn in a polished state, when browsed by deer into a fine turf, and surrounded by stately woods. Beauty, however, is not the characteristic of the forest: its peculiar distinction is grandeur and dignity. The scenes we have hitherto considered are all within the reach of art, and, in fact, have all been the objects of improvement. But the forest disdains all human culture. On it the hand of Nature only is impressed. The forest, like other beautiful scenes, pleases the eye; but its great effect is to rouse the imagination.

The word forest immediately suggests the idea of a continued uninterrupted tract of woody country. But forests in general are much more varied. They consist indeed of tracts of woody country; but these tracts are, at the same time, intermixed with patches of pasturage, which commonly bear the same proportion to the woods of the forest, which lawns do to the clumps of a park. These intermingled scenes of wood and pasturage are again divided from other intermixtures of the same kind, by wide heaths, which are sometimes bounded by a naked line of horizon, but more frequently skirted with wood. This intermixture of wood and pasturage, with large separations of heath, give a variety to the forest which a boundless continuance of woody scenery could not exhibit; though it must be acknowledged, that in many forests, and especially in New Forest, these tracts of heathy country are often larger than picturesque beauty requires.

Having given this general idea of the species of country which I mean to treat of under the idea of a forest, I shall proceed to particulars. Let me just recall to the reader's memory, what was observed before, that all great woods, diversified as forests are, though not properly denominated forests, as not subject to forest laws, will, however, naturally fall under the description of forest scenery.*

The forest, under the division of wood, pasturage, and heath, presents itself to us as a picturesque object in a double view,—as the scenery of a foreground, and as the scenery of a distance. In both views, it is equally an object of picturesque beauty; but as its effects are different in each, I shall endeavour to delineate their respective beauties.

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* See page 301.

When we speak of forest scenery as a foreground, we mean the appearance which its woods present when we approach their skirts, or invade their recesses. Forests, in their nature, are woods *ab origine*, not newly planted, but natural woods set apart for the purposes of sheltering and securing game. The trees, therefore, of which these natural woods are composed, consist of all ages and sizes, from the ancient fathers of the forest to the scion and the seedling. They grow, also, in that wild disordered manner which Nature prescribes, as the root casually runs which throws up the scion, or as the seed, or acorn, finds soil and room to establish itself, and increase. But though the richness of the scenery depends greatly on this multifarious mixture, which masses and fills up all the various combinations, yet the most ancient trees of each species are the glory of sylvan landscape. Young trees, though even in distant views inferior to old, will, however, in that situation exhibit a better appearance than on the spot, where no forest scenery can fill the eye, without a proper assemblage of such trees as have seen ages pass over them. These form those bold and rough exhibitions, in which the pride and dignity of forest views consist.

We have frequently seen the greatness of the neighbouring objects magnified, in idea, by the very smallness of the young trees on the side of a hill. We remember, that a just estimation of the magnitude of the surrounding features in the valley of Chamounix, by no means came upon our minds at once. All the larger objects were so much in relative keeping as to size, that we could hardly persuade ourselves that we had not seen valleys as large, and mountains as lofty, in the Highlands of Scotland; and this deception was in a great measure supported by the forests of spruce, which hung on the bases and sides of the mountains, and which, from the diminutive appearance which they exhibited when compared to every thing else within our view, had the effect of young fir plantations, newly created on the sides of some Highland glen. It was only after we had climbed, on a mule, for some two or three hours through these vast forests, without reaching their upper boundary, that we began to be fully aware of their vast extent; and when we were once instructed in this way, we became possessed of a measure by which we were enabled duly to appreciate the bulk of the huge masses of Nature which filled our eyes. Wood, in its young and small state, therefore, does, in certain circumstances, sometimes increase the apparent dignity of a scene; and we have perceived, that some years' growth on young wood has had the effect to us, after absence, of diminishing the apparent hill, or bank, or glen, where it grew.

We have already observed, that the wild and rough parts of Nature produce the strongest effects on the imagination, and we may add, they are the only objects in landscape which please the picturesque eye. Every thing trim, and smooth, and neat, affects it coolly. Propriety brings us to acquiesce in the elegant and well adapted embellishments of art; but the painter who should introduce them on canvass, would be characterized as a man void of taste, and utterly unacquainted with the objects of picturesque selection. Such are the great materials which we expect to find in the skirts and internal parts of the forest,—trees of every kind, but particularly the oldest and roughest of each. We examine next the mode of scenery which results from their combinations.

In speaking of the glen,* we observed that the principal beauty of it arose from those little openings, or glades, with which it commonly abounds. It is thus in the forest woods. The great beauty of these close scenes arise from the openings and recesses which we find among them.

By these I do not mean the lawns and pasturage, which I mentioned as one of the great divisions of forest scenery;† but merely those little openings among the trees, which are produced by various circumstances. A sandy bank, or a piece of rocky ground, may prevent the contiguity of trees, and so make an opening; or a tree or two may have been blasted, or have been cut down; or, what is the happiest of all circumstances, a winding road may run along the wood. The simple idea, which is varied through all these little recesses, is the exhibition of a few trees, just seen behind others. The varieties of this mode of scenery, simple as it is, are infinite. Nature is wonderfully fertile. The invention of the painter may form a composition more agreeable to the rules of his art than Nature commonly produces, but no invention can reach the varieties of particular objects.

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* See page 305.

† See page 312.

Swanewelt and Waterlo delighted in these close forest scenes. They penetrated their retreats; and when they found a little opening or recess that pleased them, they fixed it on the spot. They studied its various forms,—how the bold protuberances of an old trunk received the light and shade—how easily the large boughs parted, and how negligently the smaller were interwoven—how elegantly the foliage hung, and what various shapes its little tuftings exhibited. All these things they observed, and copied with exact attention. Their landscape, bare of objects, and of the simplest composition, had little to recommend it but the observance of the minutiæ of Nature. These they characterized with truth, and these alone have given a value to their works. This praise, however, is chiefly Waterlo's.

On the other hand, Claude, Pousin, Salvator, and other masters, who exhibited Nature more at large, took greater liberties. Their landscapes were generally carried into remote distance; and the beauty of their extensive scenes depended more on composition and general effect than on the exact resemblance of particular objects.

But the scenery of the internal parts of a forest is not merely confined to trees. There is often an opportunity of introducing a little more variety. The sandy bank mentioned above, the piece of rocky ground, or the winding road, are sometimes found in forests, and are always introduced with good effect. Some of the best of Waterlo's scenes are indebted to these circumstances for their beauty.

A pool of water, too, is a lucky incident. When it is shrouded with trees, and reflects from its deep black mirror the mossy branches of an oak, or other objects in its neighbourhood, which have received a strong touch of sunshine, it never fails to please. But it must receive its black hue from clearness. Where a pool is the principal part of a little landscape, the least muddiness, or stain from clay, or filth of any kind, robs it of its beauty.

> The green mantle of the standing pool,

as Shakespeare calls it, hurts the eye exceedingly from its ambiguous texture. It possesses neither the character of land nor of water.

But nothing can be more beautiful in such a pool, than the reflection of the reeds, and other aquatic plants, which grow about its margin.

Nor is the cottage, which is often found in the woody scenes of the forest, a circumstance without its effect. In Nature at least it pleases; nor only as the embellishment of a scene, but as it shews us a dwelling where happiness may reside, unsupported by wealth — as it shews us a resource, where we may still continue to enjoy peace, though we should be deprived of all the favours of fortune. Yet on canvass, where the forest view is formally introduced, the cottage is an improper decoration. In Nature, the eye, sated with a profusion of rich forest scenes, often seizes even the humblest circumstance as an object of relief. But when a forest scene is simply and formally introduced, it ought to appear like itself, with the appendages of greatness. There are seasons when a monarch may hold converse with the meanest of his subjects without injuring his dignity; but it is not the season when he is seated on his throne. A forest scene, introduced in picture, is introduced with distinction, and calls for every appendage of grandeur to harmonize with it. The cottage offends: it should be a castle, a bridge, an aqueduct, or some other object that suits its dignity.

With regard to aqueducts, indeed, the Romans never suffered wood to grow near them, lest its roots or seeds should insinuate themselves into the crannies of the stone, and injure the work. But there can be no impropriety, at this day, in the introduction of a ruined aqueduct in a woody scene; as trees of any magnitude may be supposed to have grown up since it had fallen to decay. The scenery about the celebrated ruins of Pont-du-Gard in Languedoc is woody; and the immediate environs of it have all the rich furniture, at least they had lately, that a painter would desire.

Besides the forest trees, in which the dignity of woodland scenery consists, it is enriched by a variety of humble plants, which, filling up the interstices, mass and connect the whole. These, however rude, we only wish to remove when they straggle too far from the clumps with which they are connected, and appear as spots in the area, or middle space between different combinations.

A long catalogue might be given of these humble plants, which are so useful in this harmonizing work; but it would lead me into tedious detail. The holly, however, should be distinguished in a general muster.* In many situations it appears to great advantage: but particularly growing round the stem, as it often does, of some noble oak on the foreground, and filling up all the space to his lower boughs. In summer it is a fine appendage; and in autumn its brilliant leaf and scarlet berry make a pleasing mixture with the wrinkled bark, and hoary moss, and auburn leaves, of the venerable tree which it encircles. The hawthorn, too, performs the same office with good effect. Though as a single bush it is sometimes offensive,† yet entangled with an oak, or mixing with other trees, it may be beautiful.

Here Mr Gilpin comes round, in some measure, to our opinion of the thorn, as given in page 195.

Nor are shrubs alone useful in harmonizing the forest: the larger kinds of weeds and wild flowers have their effect in filling up the smaller vacancies near the ground, and add to the richness of the whole. Among these, the heath and broom, with their purple and yellow tints—the foxglove, with its pale red pendent bells—the wide spreading dock—and many of the thistle tribe,—are very beautiful. The hue of the furze, too, is pleasant, but in bloom its luxuriant yellow is too powerful. Nothing can accompany it.

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* See page 193.

† See page 194.

The broad burdock should not be forgotten in this enumeration; and least of all that most beautiful of plants for landscape foreground, the *Tussilago petasites*, or greater coltsfoot. What magnificent broad effects of light, and sharp and decided touches of shadow, it produces! whilst the exquisite rich yellowish green which its velvet looking leaf exhibits, gives a peculiar freshness and vigour to the foreground, which is hardly obtained by the introduction of any other plant in its stead.

But among all the minuter plants, fern is the most picturesque. I do not mean where it is spread in quantities, but where it is sparingly and judiciously introduced. In itself it is beautiful: we admire the form of its leaf, its elegant mode of hanging, and its dark brown polished stem. As an accompaniment also, nothing is better suited to unite the higher plants with the ground; while its bright green hue in summer, and its ochre tint in autumn, join each season with its correspondent tinge.

The poet, indeed, (who, with all his cant, is sometimes a truant to Nature,) pays, in general, very little attention to these rougher objects of beauty. His foregrounds are commonly adorned with the livelier tints of Nature:

> ——— Each beauteous flower,—
> Iris all hues, roses and jessamine,
> Crocus and hyacinth, with rich inlay
> Broidering the ground.

And if he deign to speak of ground embellished with these rough picturesque beauties, he disdainfully calls it a place, where

> —— Nothing teems
> But hateful docks, rough thistles, kecksies, burs,
> Losing both beauty and utility.

Of all this undergrowth, I know but one plant that is disagreeable,—and that is the bramble. We sometimes see it with effect, scrawling along the fragments of a rock, or running among the rubbish of a ruin, though even then it is a coarse appendage. But as a pendent plant it has no beauty: it does not hang carelessly, twisting round every support, like the hop, and others of the creeping tribe, but forms one stiff, unpliant curve. Nor has it any foliage to recommend it: in other pendent plants, the leaf is generally luxuriant, and hangs loosely in rich festoons; but in the suckers of a bramble the leaf is harsh, shrivelled, and discoloured. In short, it is a plant which one should almost wish to have totally exterminated from landscape: it has neither beauty in itself, nor harmonizes with any thing around it; and may be characterized as the most insignificant of all vegetable reptiles.

But, however beautiful these minuter plants and wild flowers may be in the natural scene, yet no painter would endeavour to represent them with exactness. They are too common, too undignified, and too much below his subject. Instead of gaining the character of an exact copier of Nature by a nice representation of such trifles, he would be esteemed puerile and pedantic. Fern, perhaps, or dock, if his piece be large, he might condescend to imitate; but if he wanted a few touches of red, or blue, or yellow, to enliven and enrich any particular spot in his foreground, instead of aiming at the exact representation of any natural plant, he will more judiciously give the tint he wants in a few random general touches of something like Nature, and leave the spectator, if he please, to find out a resemblance. Botanical precision may please us in the flower pieces of Van Huysom; but it would be paltry and affected in the landscapes of Claude or Salvator. The following remark I found in a work of Dr Johnson's, which I transcribe, not only because it is judicious, and may be introduced here in place, but because it affords a new argument to shew the resemblance between poetry and painting. Johnson was a critic in the former; but I never heard that he was a judge of the latter. His opinion, therefore, in a point of this kind, was unbiassed. —“ The business of a poet,” says he, “ is, to examine, not the individual, but the species—to remark general and large appearances. He does not number the streaks of the tulip, nor describe the different shades in the verdure of the forest. He is to exhibit in his portraits of Nature, such prominent and striking features as recall the original to every mind; and must neglect the minuter discriminations, which one may have remarked and another have neglected, for those characteristics which are alike obvious to attention and carelessness."*

These observations, taken generally, are excellent and valuable; at the same time, we see many landscapes in which a little more attention in making out the foreground would have been well bestowed. A bank covered with plants, must not be painted, it is true, as if the artist had turned his eyes on each of them individually in succession. He ought to paint the bank as Nature is looked upon by the observer of landscape,—that is, so generally, that whilst the form and tints of the more prominent individuals are taken up by the eye, those of the rest are blended together in indistinct masses, in which little else is perceptible but mere colour. But we often see the foreground of pictures covered with unmeaning daubings, or blotches, of paint, taken raw from the pallet, which are capable of suggesting no other idea than that of the artist's uncommon ignorance, indolence, or slovenliness.

SECTION VII.

Having thus taken a view of the internal parts of a forest, which consist chiefly of foregrounds, we shall now consider the forest in a light just the reverse,—as consisting chiefly of Distances. In both lights it is greatly picturesque; and only more or less so in either, as the eye is more pleased with a close or a diffusive landscape.

We skirt and penetrate the recesses of the woods for the closer view, but we frequent the forest lawn and heath for the distant one. The beauty of those scenes (especially of the heath, which is a large surface) depends, it is true, in a great degree, on the play and irregularities of the ground; but chiefly it depends on the surrounding woods.

The forest lawn, in itself, is a mere field. It is only when adorned with the furniture of surrounding woods that it produces its effect.

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* *Prince of Abyssinia*, p. 68.

The forest heath also, when it is level, and bounded only by the horizon, has no charms for the eye. When it consists of well mixed inequalities of ground, it gains somewhat more upon us. But when it is bounded by woods in various parts, and interspersed here and there with clumps, which gently unite its woody boundaries with its area, it becomes an interesting scene. Sometimes also a variety of furze, fern, and other wild plants, stain it in many parts with beautiful tints. Often, too, a winding road passes through it, or different roads traversing each other. Herds of cattle also of different kinds continually frequent its open plains; and when these circumstances happily unite, the heath becomes one of the beautiful scenes of the forest.

As it is distant wood, however, on which the forest lawn, and especially the forest heath, depend for their principal aid, I shall dwell a little on this copious subject, and shall consider its most pleasing circumstances under the two heads, — of such as are permanent, and such as are incidental.

But before I enter on the subject, it may not be amiss to remind the reader once more,* that as the vast scenes of extensive forests, which we are now considering as distances, are not subject to art, the idea of suggesting rules to alter and improve them is absurd. All we mean is to endeavour to teach the eye to admire justly, and to apply to artificial landscape those observations which occur in natural; for the source of beauty is the same in both.

SECTION VIII.

The permanent beauties of a distant woody scene arise, first, from its form. There is as much variety in the form of a distant wood, as in that of a single tree. We sometimes see continuous woods stretching along the horizon without any break. All seems of equal growth, and the summit of the wood is contained under one straight line. This, except in very remote distance, is formal, heavy, and disgusting. The shape of distant woods is then only picturesque when it is broken by a varied line. This variation is, in some degree, occasioned by the different size of trees; but as the size of trees, where the distance is great, has little effect, it is chiefly and most essentially occasioned by the inequalities of the ground.

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* See page 292.

A regular line at the base of a long range of woody scenery, is almost as disgusting as at the summit of it. The woods must in some parts approach nearer the eye; and in other parts retire, forming the appearance of bays and promontories. At least this is the most beautiful shape in which they appear, as they sometimes do, when the distance, or the inequalities of the ground, do not prevent the eye from seeing the base of the wood. As the base is connected with the ground, it is commonly much more obscured than the summit, which ranges along the sky.

All square, round, picked, or other formal shapes in distant woods, are disgusting.

We remember, that, when we were travelling in Ross-shire, we noticed the broad side of a hill, where a landscape gardener, of no ordinary taste, had actually planted some favourite name, we believe that of the estate, in letters, composed of plantations a quarter of a mile long. Field Marshal John, second Earl of Stair, who was so remarkable, both as a soldier and a statesman, having inherited the estate of New Liston, near Edinburgh, resided there for twenty years after his return, in 1720, from his embassy to Paris, and having employed his active mind in laying out his pleasure grounds, he planted them with trees, arranged according to the plan of one of Marlborough's battles, in which he had borne a prominent part! Strange as it may seem, however, the great extent of the whole has so far prevented the bad effect of such a procedure, that, now that the timber has become large, New Liston has all the character of a fine old place.

There should not only be breaks, but contrast also between the several breaks of a distant forest scene. A line regularly varied disgusts as much as an unvaried one.

Among the permanent beauties of distant woods, may be reckoned also the various kinds of trees of which they are often composed. Unless the distance be great, this mixture has its effect in the variety it produces both in form and colour. Large bodies of fir also, and other species of pines, have often a rich appearance in a distance among deciduous trees; but they must be Scotch firs, pinasters, cluster pines, or other clump headed trees. The spiry headed race, the spruce fir, the silver fir, and the Weymouth pine, have here too, as well as in the clump, a bad effect. Single, they are sometimes beautiful, or two or three of them, here and there, by way of contrast, in large plantations, may be picturesque; but I think they are never so in large bodies. In general, however, the picturesque eye is little curious with regard to the kind of trees which compose a distant scene: for there are few kinds which do not harmonize together. It matters more in this bold style of landscape, that the masses of each different kind should be large. The opposition is then strongly marked, and the contrast striking and beautiful. If different trees are grouped in small bodies, the effect is totally lost in distance.

The last species of permanent beauty which we take notice of in distant forest scenery, arises from works of art. We mean not the embellishments of art, but such rude works as may almost be styled the works of Nature —the productions of convenience, rather than of taste. We certainly fetch the most picturesque objects from the grand storehouse of Nature; though we condescend to admit artificial objects also; but when they are admitted in this class, they must always be of the rough, rather than of the polished kind.

Such objects we often meet with in the wild scenes of the forest,—spires, towers, lodges, bridges, cattle sheds, cottages, winding pales, and other things of the same kind, which have often as beautiful an effect when seen at a distance, as we have just observed they have when sparingly met with in the internal parts of a forest; only, the nearer the object is, we expect its form must be the more picturesque. Distance, no doubt, hides many defects, and many an object may appear well in a remove, which, brought nearer, would disgust the eye.

SECTION IX.

Having thus considered what may properly be called the permanent beauties of distant forest scenery, we proceed to its incidental beauties. These arise principally from two causes, — the Weather and the Seasons. As both are changeable, they both produce various appearances: the former affects chiefly the sky, the latter the earth.

The Weather is a fruitful source of incidental beauty; and there are few states of it which do not impress some peculiar and picturesque character on landscape, to which it gives the leading tint. A country is chiefly affected by the weather when it is hazy and misty — or when the sky is invested with some cold tint — or when the sun rises — or when it shines full at noon — or when it sets — or lastly, when the day is stormy. Each of these different states of the weather admits much variation; but as it would be endless to trace these variations into detail, I shall take notice only of the general effects of each, and of these merely as they affect the forest. In other works of this kind, I have touched upon these sources of incidental beauty as they affect lakes and mountains.*

The calm, overcast, soft day, such as these climates often produce in the beginning of autumn, hazy, mild, and undisturbed, affords a beautiful medium, spreading over the woods a sweet gray tint, which is especially favourable to their distant appearances. The internal parts of the forest receive little advantages from this hazy medium; but the various tuftings of distant woods are wonderfully sweetened by it; and many a form, and many a hue, which in the full glare of sunshine would be harsh and discordant, are softened and melted together in harmony. We often see the effects of this mode of atmosphere in various species of landscape; but it has nowhere a better effect than on the woods of the forest. Nothing appears through mist more beautiful than trees a little removed from the eye, when they are opposed to trees at hand; for as the foliage of a tree consists of a great number of parts, the contrast is very pleasing between the varied surface of the tree at hand, and the dead unvaried appearance of the removed one.

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* See *Observations on the Lakes of Cumberland and Highlands of Scotland.*

The light mist is only a greater degree of haziness. Its object is a nearer distance, as a remote one is totally obscured by it. In this situation of the atmosphere, not only all the strong tints of Nature are obscured, but all the smaller variations of form are lost. We look only for a general mass of softened harmony and sober colouring unmarked by any strength of effect. The vivid hues of autumn particularly appear to great advanage through this medium. Sometimes these mists are partial; and if they happen to coincide with the composition of the landscape, this partiality is attended with peculiar beauty. I have remarked in other works of this kind,* that when some huge promontory emerges from a spreading mist, which hangs over one part of it, it not only receives the advantage of contrast, but it also becomes an object of double grandeur. We often see the woods of the forest also with peculiar advantage, emerging through a mist in the same style of greatness. I have known likewise a nearer distance, strongly illumined, produce a good effect through a light drizzling shower.

Nearly allied to mists is another incidental appearance, —that of smoke, which is often attended with peculiar beauty in woody scenes. When we see it spreading in the forest glade, and forming a soft bluish background to the trees which intercept it, it shews their foliage and ramification to great advantage.

No artist knows better how to avail himself of this incident than the Rev. John Thomson, of Duddingston, whose fine imagination and magical execution enable him to throw over his picture those powerful tones of poetical feeling without which landscape painting is a bare mechanical art, incapable of exciting any of those delicate or sublime associations in which the true pleasure derived from its contemplation consists.

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* See *Observations on Scotland,* vol. ii. p. 174.

Sometimes also a good effect arises, when the sky, under the influence of a bleak north wind, cold and overcast, is hung with blue or purple clouds lowering over the horizon. If under that part of the atmosphere the distant forest happens to range, it is overspread with a deep blue or a purple tint from the reflection of the clouds, and makes a very picturesque appearance. And yet I should be cautious in advising the painter to introduce it with that full strength in which he may sometimes perhaps observe it. The appearance of blue and purple trees, unless in very remote distance, offends, and though the artist may have authority from Nature for his practice, yet the spectator who is not versed in such effects may be displeased. Painting, like poetry, is intended to excite pleasure; and though the painter, with this view, should avoid such images as are trite and vulgar, yet he should seize those only which are easy and intelligible. Neither poetry nor painting is a proper vehicle for the depths of learning. The painter, therefore, will do well to avoid every uncommon appearance in Nature.

Within this caution, however, he will spread the prevailing tint of the day over his landscape—over his whole landscape. Nature tinges all her pictures in this harmonious manner. It is the grayish tint, or it is the blue; or it is the purple, or it is one of the vivid tints of illumination, red, or yellow—whatever it be, it blends with all the lights and shadows of the piece. This great principle of harmony which arises from the reflection of colour, (in some degree, even when the air is diaphanous,) must be observed by every painter who wishes to procure an effect. His picture must be painted from one pallet, and one key, as in music, must prevail through his whole composition. As the air, however, is the vehicle of all these tints, it is evident, that in distances (in which we see through a deeper medium of tinged air) they will prevail most; and, of course, very little on foregrounds. The painter must observe this rule of Nature by bringing his tints regularly forward; and his foregrounds he must compose of such colours—mute or vivid—as accord best with the general hue of his landscape. Yet still he will be cautious how he spreads even the prevailing tint too strongly. Much error hath arisen from this source, and some painters, under the idea of harmonizing, have given us blue, and purple pictures. I know not whether Poussin himself did not sometimes fall into this fault. Nature's veil is always pure and transparent: yet, though in itself hardly discoverable, it will still give its kindred tinge to the features which are seen through it.

We have now considered incidental beauty as arising from the colder modifications of the air. We use the word colder, not in a physical, but in a picturesque sense, as productive only of sober colouring, unattended with any force of effect. We come now to a more illustrious family of tints, the offspring of the sun. These are fertile sources of incidental beauty among the woods of the forest. The characteristic of them is strong effect. Let us first examine the incident of a rising sun.

The first dawn of day exhibits a beautiful obscurity. When the east begins just to brighten with the reflections only of effulgence, a pleasing progressive light, dubious and amusing, is thrown over the face of things. A single ray is able to assist the picturesque eye, which by such slender aid creates a thousand imaginary forms, if the scene be unknown, and, as the light steals gradually on, is amused by correcting its vague ideas by the real objects. What in the confusion of twilight perhaps seemed a stretch of rising ground, broken into various parts, becomes now vast masses of wood, and an extent of forest.

As the sun begins to appear above the horizon, another change takes place. What was before only form, being now enlightened, begins to receive effect. This effect depends on two circumstances,—the catching lights which touch the summits of every object, and the mistiness in which the rising orb is commonly enveloped.

The effect is often pleasing, when the sun rises in unsullied brightness, diffusing its ruddy light over the upper parts of objects, which is contrasted by the deeper shadows below; yet the effect is then only transcendent when he rises, accompanied by a train of vapours, in a misty atmosphere. Among lakes and mountains this happy accompaniment often forms the most astonishing visions; and yet, in the forest, it is nearly as great. With what delightful effect do we sometimes see the sun's disk just appear above a woody hill, or, in Shakespeare's language,

> Stand tiptoe on the misty mountain's top,

and dart his diverging rays through the rising vapour. The radiance, catching the tops of the trees as they hang midway upon the shaggy steep, and touching here and there a few other prominent objects, imperceptibly mixes its ruddy tint with the surrounding mists, setting on fire, as it were, their upper parts, while their lower skirts are lost in a dark mass of varied confusion, in which trees, and ground, and radiance, and obscurity, are all blended together. When the eye is fortunate enough to catch the glowing instant, (for it is always a vanishing scene,) it furnishes an idea worth treasuring among the choicest appearances of Nature. Mistiness alone, we have observed, occasions a confusion in objects, which is often picturesque; but the glory of the vision depends on the glowing lights which are mingled with it.

Landscape painters, in general, pay too little attention to the discriminations of morning and evening. We are often at a loss to distinguish, in pictures, the rising from the setting sun, though their characters are very different both in the lights and shadows. The ruddy lights indeed of the evening are more easily distinguished, but it is not perhaps always sufficiently observed, that the shadows of the evening are much less opaque than those of the morning. They may be brightened perhaps by the numberless rays floating in the atmosphere, which are incessantly reverberated in every direction, and may continue in action after the sun is set: whereas in the morning, the rays of the preceding day having subsided, no object receives any light, but from the immediate lustre of the sun. Whatever becomes of the theory, the fact, I believe, is well ascertained.

The incidental beauties which the meridian sun exhibits are much fewer than those of the rising sun. In summer, when he rides high at noon, and sheds his perpendicular ray, all is illumination: there is no shadow to balance such a glare of light, no contrast to oppose it. The judicious artist therefore rarely represents his objects under a vertical sun. And yet no species of landscape bears it so well as the scenes of the forest. The tuftings of the trees, the recesses among them, and the lighter foliage hanging over the darker, may all have an effect under a meridian sun. I speak chiefly, however, of the internal scenes of the forest, which bear such total brightness better than any other, as in them there is generally a natural gloom to balance it. The light obstructed by close intervening trees will rarely predominate. Hence the effect is often fine. A strong sunshine striking a wood through some fortunate chasm, and reposing on the tuftings of a clump, just removed from the eye, and strengthened by the deep shadows of the trees behind, appears to great advantage: especially if some noble tree, standing on the foreground in deep shadow, flings athwart the sky its dark branches, here and there illumined with a splendid touch of light.

In an open country, the most fortunate circumstance that attends a meridian sun is cloudy weather, which occasions partial lights. Then it is that the distant forest scene is spread with lengthened gleams, while the other parts of the landscape are in shadow. The tuftings of trees are particularly adapted to catch this effect with advantage. There is a richness in them from the strong opposition of light and shade, which is wonderfully fine. A distant forest thus illumined, wants only a foreground to make it highly picturesque.

As the sun descends, the effect of its illumination becomes stronger. It is a doubt, whether the rising or the setting sun is more picturesque. The great beauty of both depends on the contrast between splendour and obscurity. But this contrast is produced by these different incidents in different ways. The grandest effects of the rising sun are produced by the vapours which envelope it. The setting sun rests its glory on the gloom which often accompanies its parting rays. A depth of shadow hanging over the eastern hemisphere gives the beams of the setting sun such powerful effect, that although, in fact, they are by no means equal to the splendour of a meridian sun, yet through force of contrast they appear superior.

A distant forest scene, under this brightened gloom, is particularly rich, and glows with double splendour. The verdure of the summer leaf, and the varied tints of the autumnal one, are all lighted up with the most resplendent colours.

The internal parts of the forest are not so happily disposed to catch the effects of a setting sun. The meridian ray, we have seen, may dart through the openings at the top, and produce a picture,* but the flanks of the forest are generally too well guarded against its horizontal beams. Sometimes a recess fronting the west may receive a beautiful light, spreading in a lengthened gleam amidst the gloom of the woods which surround it; but this can only be had in the outskirts of the forest. Sometimes also we find in its internal parts, though hardly in its deep recesses, splendid lights here and there catching the foliage, which though in Nature generally too scattered to produce an effect, yet if judiciously collected, may be beautiful on canvass.

We sometimes also see in a woody scene, corruscations, like a bright star, occasioned by a sunbeam darting through an eylet hole among the leaves. Many painters, and especially Rubens, have been fond of introducing this radiant spot in their landscapes. But in painting it is one of those trifles which produces no effect; nor can this radiance be given. In poetry indeed it may produce a pleasing image. Shakespeare hath introduced it beautifully, where, speaking of the force of truth entering a guilty conscience, he compares it to the sun, which

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* See page 329.

> ——— fires the proud tops of the eastern pines,
> And darts his light through every guilty hole.

It is one of those circumstances which poetry may offer to the imagination, but the pencil cannot well produce to the eye; and if it could, it were better omitted, as it attracts the eye from what is more interesting.

These are circumstances of light, which, whether produced by the rays of the sun or the moon, are always delightful to the true lover of Nature; although we are quite prepared to admit, that painters may find them beyond their power to represent successfully. The very associations which are awakened by the quotation from Shakespeare, are enough of themselves to give value to such effects, eagerly to watch the changes of which we have often stood for hours together.

Under the sameness of Italian skies the beauties of a setting sun are hardly known. There the radiant orb courses his way with equal splendour from one end of the hemisphere to the other. Nothing refracts his beam. To the vapours of grosser climates, we owe those beautiful tints which accompany his whole journey through the skies, but especially his parting ray.

We confess that the sameness of the pure Italian sky, however delightful or pleasurable its influence may be on the mere animal frame, becomes tiresome and unsatisfactory to the eye. We have sat on the point of a cliff, projecting itself over the deep bed of the romantic Findhorn, where its course is visible for some eight or ten miles towards the sea, through the depths of the forests that every where clothe the varied elevations on either side, and where the headlands are seen alternately to overlap one another, forming a series of distances receding behind each other, more numerous than we have ever had occasion to remark in almost any other scene; and there, whilst the light clouds were coursing across the sky, we have beheld as many distinctly different landscapes produced during one hour as there were minutes in it, and each of them exquisite in its way. This changeful effect of sky we should in vain look for in Italy. The artist who studies Nature in Italian regions, may return day after day to the same scene, and always find it under the same effect; but it is chiefly under a northern sky that he can snatch up those catches of what may be called the poetry of Nature, which give value to landscape; these, however, we must grant, are to be gleaned even in Italy, in the vicinity of the Alpine regions, where, at certain times, very sublime changes of sky are continually taking place.

Thus far the sources of incidental beauty are all derived from milder skies. But the turbulence of the atmosphere is still a more fruitful source of picturesque effect in the forest, as in other scenes. Unaided indeed by sunshine the storm has little power: but when the force of the tempest separates the clouds into large, dark, convex forms, and the rays of the sun stream from behind them athwart a clear horizon, if the objects correspond, a very sublime picture is exhibited.

No master was better acquainted with these circumstances than the younger Vandervelt. In all his sea storms he avails himself of them, and is remarkable for the grand masses of light and shade which he produces.

The land storm is equally a source of beauty. When the tempest scowls over the forest, as we traverse its deep recesses, what grandeur do the internal parts of it receive from the casual ray darting upon them! Or when we view it as a distant object, and see the storm blackening behind the trees, with what wonderful effect does the sun, in an opposite direction, strike their tufted heads! But if that sun be setting, while the tempest is brewing over the hemisphere, black towards the east—lurid, more purple, and glowing with red, as it advances towards the west — then it is that the utmost value is given to its effect. The castle, the lake, or the forest scene, whether viewed in shadow against the ruddy light, or illumined under the storm, appear in full grandeur; and we see all that light and shade, in extreme contention, yet fully harmonized, can produce :

Vain are the hopes by colouring to display
The bright effulgence of the noontide ray;
Or paint the full orb'd ruler of the skies
With pencils dipt in dull terrestrial dyes.

But when mild evening sheds her golden light,—
When morn appears, array'd in modest white,—
When soft suffusions of the vernal shower
Dims the pale sun, or, at the thund'ring hour,
When wrapt in crimson clouds he hides his head,—
Then catch the glow, and on the canvass spread.

I know no appearance indeed in Nature, that is more awfully grand than the conjunction of a storm and a sunset on some noble mass of forest scenery. We may easily conceive, that ignorance and superstition might magnify such a resplendent gloom into something supernatural. In a passage which I lately quoted from Virgil, an idea of this kind is very picturesquely, as well as poetically, introduced. It is in the interview between Æneas and Evander, when the old chief informs his noble guest that frequently in tempests the simple Arcadians believed they saw heavenly forms behind the groves of the Tarpeian rock:

Hoc nemus, hunc, inquit, frondoso vertice collem,
(Quis deus, incertum est) habitat deus. Arcades ipsum
Credunt se vidisse Jovem, *cum sæpe nigrantem*
Ægida concuteret dextra, nimbosque cieret.

As these great effects are certainly the most picturesque of all aërial appearances, it is rather surprising that landscape painters, in general, make so little use of them. It is much more common to see landscape painted under the uniform brightness of an equal light, than to see it illumined by these grand circumstances of the atmosphere, in which light and shade are so happily combined.

The landscape painter says, that effects like these are uncommon, and he chooses to paint Nature as he generally sees her.

The idea is good, but certainly these effects are common enough to have been often the object of every one's observation. He will not, I suppose, take the commonest objects as he finds them. And if he select his objects, why not the most beautiful mode of exhibiting them? The great effects of morning and evening suns, of mists and storms, are not more uncommon than natural combinations of beautiful objects. But the real truth seems to be, that such effects are the most difficult to manage, and require great study and observation. The artist, therefore, who paints for his bread, rather than his character, (an evil attending the art, which can never be removed,) chooses such an exhibition of light and shade as is the most easy to himself, and may likewise be most pleasing to the generality of his undistinguishing employers. Hence, we have so great a number of glaring landscapes, which depend on nothing but the beauty and colouring of a few particular objects, without any attention to those grand effects, which make landscape by many degrees the most sublime and interesting.

It is, perhaps, one of the great errors in painting (as indeed it is in literary, as well as in picturesque composition) to be more attentive to the finishing of parts, than to the production of a whole. Whereas the master's great care should be, first to contrive a whole, and then to adapt the parts as artificially as he can. I speak of imaginary landscape: when he paints a particular view, his management must be just the reverse. He has the parts given him, and he must form them into a whole, as he can; and this is often difficult.

There is nothing, however, that tends so much to produce a whole, as a proper distribution of light and shade, which we best obtain when we can present our landscape under one of these grand effects of Nature. A common sunshine furnishes lights, not masses. It may throw a beautiful illumination on particular objects, but the grand effects of Nature furnish the best opportunities of forming the masses of each.

What gives the most grandeur to these effects is a predominancy of shade, which has always more dignified ideas annexed to it than a predominancy of light. And yet how little is this observed! In the generality of pictures and prints, you see the balance on the other side, and are often offended with glaring spots of light, which destroy the idea of a whole. The painter should examine his piece, therefore, with great care. He may put out one light after another, and reviewing his work with a fresh eye, may still find some glaring part to erase, before he venture it abroad. On this occasion he may apply with good sense, and form into an adage, a very nonsensical passage, as it appears, in Shakespeare:

> Put out the light—and then—put out the light.

If the artificial representation of every subject seems rather to require a balance of shade, in sublime subjects it is still more required. All writers on sublime subjects deal in shadows and obscurity.* The grandeur of Jehovah is commonly represented by the Hebrew writers behind a cloud. The imagination makes up deficiencies by grander ideas than it is possible for the pencil to produce. Many images owe much of their sublimity to their indistinctness; and, frequently, what we call sublime is the effect of that heat and fermentation which ensues in the imagination, from its ineffectual efforts to conceive some dark, obscure idea, beyond its grasp. Bring the same within the compass of its comprehension, and it may continue great; but it will cease to be sublime. This species of the sublime is oftener found in the composition of the poet than of the painter. In general, the poet has great advantages over the painter in the process of sublimication, if the term may be allowed. The business of the former is only to excite ideas; that of the latter to represent them. The advantage of excited over represented ideas is very great, inasmuch as they are, in some degree, the reader's own production, and are susceptible of those modifications which make them peculiarly acceptable to the mind in which they are raised; whereas, the others, being confined within a distinct and unalterable outline, admit of none of the modifications which flatter the particular taste of the spectator, but must make their way by their own intrinsic force.

SECTION X.

We have now treated of the incidental beauty of forest scenery as arising from the Weather; we examine it next as arising from the Seasons. Each season hath beauties peculiar to itself.

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* See Burke *On the Sublime*.

The early Spring is not very favourable to the study of landscape. Nature is yet unfolding herself, and is in her progress only to perfection. The bloom of many trees, gay and fantastic in its colouring and form, may be beautiful and curious in itself, but is ill adapted to harmonize and unite with other objects. And yet we sometimes see tints which produce a pleasing effect. The budding oak displays great variety. Among neighbouring oaks, the bud of one is a tender green; of another, almost yellow; of a third, an ochre brown, perhaps nearly inclining to red: yet each of these, as it opens, will probably accord harmoniously with the tint of its neighbour. But all trees have not the accommodating qualities of the oak: the early shoots, particularly of evergreens, are seldom in harmony with the foliage of the parent tree.

As Summer advances, the forest assumes a more determined and connected form. The germs and leaves are all unfolded; the hue of the foliage becomes harmonious; the tuftings, also, of the trees are prepared, as beds for masses of light to rest on; which the spray, and the bloom of early spring, unconnected and unformed, could not fully receive.

So far we have gained by the progress of the year. But the great objection to summer arises from the uniformity of its hue. The face of Nature is covered with one unvaried mantle of green; for though the nicer eye may trace many shades in this general colour, yet, on the whole, it is both too vivid and too uniform for the pencil.

The reign of summer scarcely endures three months.* The leaves, within that period, begin to change their hue, and give way to Autumn, which presents an appearance much more picturesque, and indeed the most replete with incidental beauty of any season of the year. This is so evident, that painters have chosen the autumn, with almost universal predilection, as the season of landscape. The leafy surface of the forest is at that time so varied, and the masses of foliage are yet so full, that they allow the artist great latitude in producing his tints, without injuring the breadth of his lights:

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* Did we not fear to be considered as cynics, we should ask in what part of these islands the reign of summer may be said to endure so long? It seems to us, that, in our unsettled climate, the throne of the season called Summer is poised, as it were, on a mathematical point, and that the genial goddess has no sooner arisen to her seat of government on the one side, than, with great and strange perversity, she immediately begins to descend from it on the other, to make way for the blasts that usher in Winter.

> ——————The fading, many-coloured woods,
> Shade deepening over shade, the country round
> Imbrown ; a varied umbrage, dusk and dun,
> Of every hue, from wan declining green
> To sooty dark.

Yet the autumn, in its wane, is not so pleasing. It has too forlorn an aspect. The leaves are withered, and their tufts shrivelled and shapeless. This remark, however, affects trees only at hand. The home plantation suffers where you walk so near the fading tree as to see Nature in decay ; but at a distance the withered effect is not easily discerned. In the wane of autumn, however, there are other defects. The ash, and some other trees, have deserted their station in the forest: they have shed their leaves, and left a cheerless blank. Besides, the verdure of the forest is too much wasted, and the brown and yellow tints, beautiful as they are, become too predominant; for the prevalence of these hues in autumn fatigues the eye no less than the prevalence of green in summer — only, indeed, the autumnal tints will ever be more varied. But the intermediate time is the season of picturesque beauty, when the greens, and the browns, and the yellows, are blended together by a variety of middle tints, which often create the most exquisite harmony.

Of all the hues of autumn, those of the oak are commonly the most harmonious. As its vernal tints are more varied than those of other trees, so are its autumnal. In an oaken wood, you see every variety of green, and every variety of brown, owing either to the different exposure of the tree, its different soil, or its different nature : but it is not my business to inquire into causes.

In the beechen grove, you seek in vain for this variety. In the early autumn, indeed, you see it, when the extremities only of the tree are just tinged with ochre ; but, as the year advances, the eye is generally fatigued with one deep monotony of orange, though, among all the hues of autumn, it is in itself perhaps the most beautiful. The painter imitates it the most happily by a touch of terra de Sienna. But the eye is palled with beauty in profusion, and calls for contrast.

The same uniformity reigns, though of a different hue, when ash or elm prevails. No fading foliage indeed, of any one kind that I know, produces harmony, except that of the oak.

The hues, however, of the distant forest, when most discordant, are often harmonized by the intervening trees on the foreground. We can bear the glow of the distant beech wood, when it is contrasted at hand by a spreading oak, whose foliage hath yet scarce lost its summer tint, or by an elm, or an ash, whose fading leaves have assumed a yellowish hue.

But, after all, the autumnal forest is an instrument easily untuned. One frosty night or parching blast may introduce some striking discord ; though, on the other hand, it is true, by softening some discordant tint, it may as easily introduce a harmony which did not exist before. Here Art comes to the aid of Nature ; the pencil fixes the scene in the happy moment, and the fading tints of autumn become perennial.

I have known some planters endeavour in their improvements to range their trees in such a manner, as, in the wane of the year, to receive all the beauty of autumnal colouring. The attempt is vain, unless they could so command the weather as to check or produce at pleasure those tints which Nature hath subjected to so many accidents. A general direction is all that can be given. Oak is rarely in discord ; but beech and elm can as rarely be depended on. All must be left to chance ; and, after the utmost that art can do, the wild forest, with its casual discords and monotonies, will present a thousand beauties which no skill of man can rival.

Thus, the beauties of the waning year are fixed rather by the weather than by the calendar. We often see them vanish in October, and we sometimes see a fine autumnal effect in the beginning of November; nay, even later, we may trace the beauties of the declining year, and

——— catch the last smile
Of autumn, beaming o'er the yellow woods.

Even when the beauty of the landscape is gone, the charms of autumn may remain. After the rage of summer is abated, and before the rigours of winter are yet set in, there are often days of such heavenly temperature, that every mind must feel their effect. Thomson, to whom the beauties of Nature were familiar, thus describes a day of this kind:

——— The morning shines
Serene, in all its dewy beauties bright,
Unfolding fair the last autumnal day.
O'er all the soul its sacred influence breathes,
Inflames imagination, through the breast
Infuses every tenderness, and far
Beyond dim earth exalts the swelling thought.

To the picturesque beauties of autumn, we may add, that the sunsets at that season are commonly richer than when the days are of the same length in the spring, or indeed at any other season.

But the leafy forest is not solely the object of incidental beauty. The picturesque eye finds great amusement even in its wintry scenes, when it has thrown its rich mantle aside, and appears, to the common eye, naked and deformed.

The hazy sunshine of a frosty morning is accompanied with an indistinctness peculiar to itself. The common haziness of a summer day spreads over the landscape one general gray tint; and, as we have had occasion to remark in different circumstances, is often the source of great beauty. But the effect we are here observing, is of a different kind. It is generally more partial, more rich, and, mixing with streaks of different coloured clouds which often form behind it, produces a very pleasing effect.

Great beauty also arises from the different tints of the spray. The dark brown spray of the birch, for instance, has a good effect among that of a lighter tinge; and, when the forest is deep, all this little bushiness of ramification hath, in some degree, the effect of foliage.

We have observed that a very beautiful effect is produced by the spray of the alder, when the sap begins to rise, towards the end of winter, for then the young shoots and buds, when seen at a distance, give a colour to the tree almost approaching to scarlet. This is peculiarly rich when the trees happen to be blended, as we have seen them, with the pine woods on some distant bank, where they contrast with the dark green of the firs.

The boles of trees, likewise, and all their larger limbs, add a rich variety and contrast to the forest; the smooth and the rough, the light and the dark, often beautifully opposing each other. In winter, the stem predominates, as the leaf in summer. It is amusing, in one season, to see the branches losing and discovering themselves among the foliage; and it is amusing also, in the other, to walk through the desolate forest, and see the various combinations of stems, the traversing of the branches across each other, in so many beautiful directions, and the pains which Nature takes in forming a wood, as well as a single tree.* She leaves no part unclosed; but pushing in the branch, or the spray, as the opening allows, she fills all vacant space by uniting the heads of the trees; while every step we take presents us with some beautiful variety in her mode of forming the fretted roof under which we walk.

In winter, too, the effect of evergreens is often pleasing. The holly, when it happens to be well combined, and mixed in just proportion, makes an agreeable contrast. The ivy hanging round the oak, if it be not too profuse, we have already observed, is a beautiful appendage to its grandeur. I have seen some parts of the forest where the stem of almost every tree was covered with it. This, indeed, was not picturesque; but it gave the wood a very odd appearance, by exhibiting so total an inversion of Nature. In summer the tops of the trees are green, and their stems commonly bare: here the tops were bare, while the stems were in full leaf.

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* See page 198.

In a light hoar frost, before the sun and air begin to shake the powder from the trees, the wintry forest is often beautiful, and almost exhibits the effect of tufted foliage. As single objects also, trees, under this circumstance, are curious. The black branches whose under sides are not covered with rime, often make a singular contrast with the whitened spray. Trees of minuter ramification and foliage, as the beech, the elm, and the fir, appear, under this circumstance, to most advantage. The ash, the horse chestnut, and other plants of coarser form, have no great beauty. Trees also thus covered with hoar frost have sometimes, if not a picturesque, at least an uncommon effect, when they appear against a lurid cloud, especially when the sun shines strongly upon them.

But although many appearances in winter are beautiful and amusing, and some of them even picturesque, yet the judicious painter will rarely introduce them in landscape, because he has choice of more beautiful effects when Nature appears dressed to more advantage.

Picturesque pleasure arises from two sources, — from the beauty and combination of the objects represented, and from the exactness of the representation. Thus, we are pleased with the picture of a noble landscape, the composition of which is just, and the lights well disposed; and yet a sort of pleasure arises from seeing a bright table, a deal board, or a rasher of bacon naturally represented.* But while the former of these is the work of

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* Deceptions of this kind used frequently to be hung up in the exhibition room, in London, among the works of capital artists, where indeed they were unworthy of a place.

Since this passage was written, I have met with the following excellent remark in one of Sir Joshua Reynolds's Notes on Mr Mason's genius, the latter is a mere mechanical knack. The one therefore is admired by the man of taste, the other, except for a moment, only by the ignorant and uninformed.

This is just the case before us. The painter who chooses a winter subject, in general gives up composition and effect, to shew how naturally he can represent snow or hoar frost. It is almost impossible to produce a good effect with these appendages of winter: they must naturally create false and glaring lights, to which the painter generally makes his composition subservient.

Among the sources of incidental beauty in a forest, may be mentioned (what perhaps may appear odd) the felling of timber. If you wish to fell trees with some particular view to improvement, the intention is often frustrated. It must be done very artfully, or, in general, your design will be apparent and disgusting to the eye. The master of the scene himself, who is always on the spot, and examines it frequently from every stand, if he be a man of taste, will be the best improver, and direct the felling axe with most judgment. At the same time, we frequently see trees cut down carelessly, for the purpose of utility, which have opened greater beauties than any they possessed themselves when standing, though the preconceived loss of them was greatly lamented. But this can only happen where trees abound.

I shall conclude this enumeration of the incidental beauties belonging to forest scenery, with an appendage which we frequently see in it, — that of a timber wain, an object of the most picturesque kind, especially when drawn by oxen. Here the tree, when dead, adorns again the landscape which it adorned when living. A gilded chariot is an object which art has industriously tricked out and decorated. It is of a piece, therefore, with all such artificial objects as are the most unlike Nature.

Translation of Fresnoy, p. 114: — "Deception, which is so often recommended by writers on the theory of painting, instead of advancing the art, is in reality carrying it back to its infant state. The first essays of painting were certainly nothing but mere imitations of individual objects; and when this amounted to a deception, the artist had accomplished his purpose."

Whereas the timber wain is at least a piece of simple art; and the rudeness of its form and materials is a property which it has in common with the works of Nature. Oxen, too, are more picturesque in themselves than horses. Much of the beauty, however, of this incident arises from its being adapted to the scene. A wain of timber is much more beautiful in a forest than it would be in the streets of a town.

Thus I have enumerated the most common sources of permanent and incidental beauty in forest landscape. I have insisted only on the most common sources. An eye, inquisitive in the scenes of Nature, will investigate many others. Having detained the reader, perhaps, too long in this examination, I shall endeavour to relieve him by a few general observations on forest history.

SECTION XI.

Perhaps, of all species of landscape, there is none which so universally captivates mankind as forest scenery; and our prepossession in favour of it appears in nothing more than in this, — that the inhabitants of bleak countries, totally destitute of wood, are generally considered, from the natural feelings of mankind, as the objects of pity.

Pliny has given us a view of this kind, which, he tells us, he took himself upon the spot. It represents a bleak sea coast in Zealand, before that country was embanked; the inhabitants of which he speaks of as the most wretched of human beings. It is true, there are other wants, besides that of scenery, which enter into the idea of their wretchedness; but I dare affirm, that if Pliny had found the same people, with all their wants about them, in a country richly furnished with wood, he would have spoken of them in different language. Pliny's picture is in itself so good, and is likewise so excellent a contrast to the scenes which we have just examined, that I think it worth inserting. I shall rather give the general sense of the passage, than an exact translation of it.

" This coast," says he, " lies so much lower than the ocean, that the tides daily overflow it. The inhabitants build their huts on little eminences, which they either find or construct on the shores, and which serve to raise their dwellings just above the water mark. These dwellings, or rather cabins, when the tide rises, often seem like floating boats; and when it retires, the inhabitants appear like stranded mariners, and their cottages like wrecks. Their harvest is the ebbing of the sea, during which they are every where seen running about in quest of fish, and pursuing them in each little creek of the shore, as the tide deserts it. They have neither horse nor cow, nor domestic animal of any kind; and as to game, they have not the least appearance of a bush to shelter it. The whole employment of this wretched people is fishing. They make their nets of sea weed, and dry a kind of slimy mud for fuel. Rain water is their only drink, which they preserve in ditches, dug before their cabins."*

Such is Pliny's picture of this bleak and desolate country. From the very feelings of Nature we shudder at it. Whereas the idea of the forest is pleasing to every one. The case is, though there may be as much real misery amidst beautiful scenery, yet beautiful scenery covers it. Wretchedness is often felt under splendid apparel; but it does not strike us in such attire as it does in rags.

That man was originally a forest animal, appears from every page of his early history. Trace the first accounts of any people, and you will find them the inhabitants of woods, if woods were to be found in the countries in which they lived. Caves, thickets, and trunks of trees, were their retreats, and acorns their food, with such beasts as they took in hunting, which afforded them only a precarious supply.

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* See Pliny's *Nat. Hist.* book xvi. cap. i.

Hæc nemora indigenæ Fauni, nymphæque tenebant,
Gensque virûm truncis, et duro robore nata :[*]
Queis neque mos, neque cultus erat ; nec jungere tauros,
Aut componere opes nôrant, aut parcere parto ;
Sed rami, atque asper victu venatus alebat.[†]

If indeed they lived near a coast, like the Zealanders described by Pliny, they obtained a livelihood by fishing. But with the savages of the coast we have nothing to do: our attention is only engaged by the savage of the woods.

While man continued thus an inmate of the forest, it is possible he might have sagacity to build himself a hut of boughs, which he might cover with clods; and yet it is more probable, that while he continued the mere child of Nature, he was contented with the simple shelter which Virgil above supposes his common mother furnished, — the embowering thicket, or the hollow trunk, as summer or winter led him to prefer an open or a closer cover. Strabo speaks of certain Asiatics, even so late in the history of mankind as the times of Pompey the Great, who harboured, like birds, in the tops of trees.[‡] And I think the savages about Botany Bay, are not represented by our late discoverers in a much more improved condition.

It is remarkable that we can produce instances of at least a temporary residence in the tops of trees, in the very country where Pliny lived, and that even at the present moment. The peasants who work in the Pontine marshes, and who find it impossible, or inconvenient, to quit these unwholesome regions during the night, are obliged to resort to various stratagems to get above the reach of that miasma which is so fatal to human life. One of their expedients is to build cabins of sticks and reeds in the topmost boughs of the trees, and as the pestilential vapour hovers over the surface, they find that by occupying these elevated places of repose, they are in a great measure free from its malign influence. We have seen some of these curious aërial edifices, which, at a little distance, may easily be mistaken for the nests of some large birds of prey.

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[*] Born and living in trunks of trees, as Ruæus well explains it ; not produced from them.

[†] —— These woods the fawns and nymphs once held,
Here, too, a hardy race of men subsist :
Unversed in all the arts of life, they know
Nor how to yoke the ox, nor turn the glebe ;
Content with the bare produce of the woods,
And what the chase affords.——

[‡] Lib. xii. p. 549. edit. Casaub.

Man in this solitary state (for scarcity of food forbade any enlarged ideas of society) waged but unequal war with his brother savages the brutes. Most of them outstripped him in speed, many of them contended with him in strength, and some nearly equalled him in sgacity.

The human savage, thus finding himself hard put to it, even to defend his own, might look round for assistance. The dog, whose friendly manners * might solicit his acquaintance, was probably one of the first associates in those countries where dogs were to be found. This union made a powerful party in the forest. The great object of it, however, was rather food than conquest. The dog and his master were both carnivorous animals; and they soon began to gratify their appetites at the expense of their fellow brutes. The one conducting and the other executing the plan, few creatures could oppose them.

But man from the beginning was an ambitious animal. Having filled his belly, he aspired after dominion. For this purpose it was necessary for him to procure a better ally than that he had chosen. He had yet but little connection with his fellow. To join now and then in a hunting party was all the intercourse he knew. It was little more than such a league as is found among wolves, jackalls, and other animals that hunt in packs. Ideas of society, however, by degrees took place. The dawnings

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* That there is something very harmonious between the human and canine nature, is the observation of all naturalists. Every other domestic animal is attached to his habitation: the dog alone to his master. Build a shed for horses or cows in any place, and let them be well supplied with food, and they are perfectly happy. They know their keeper indeed; but they are no way disturbed if his loss be supplied by another who feeds them as well. Let a family leave a house, and a new family occupy it, the cat complains of nothing, except the bustle of a remove. But the dog, carry him where you will, and feed him with the most grateful food, enjoys for a long time no happiness if he be deprived of his beloved master. He forms new attachments in time; but he never forgets an old friendship. The friendship of a dog Homer has thought of consequence to introduce into an epic poem.

of social compact appeared. Man now threw off the brute, and thought it good to leave his scattered tenements, and to assemble in hordes. The rudiments of law were traced, and some rude sketch of subordination. In earnest he now began to shew his dominion. By fellowship he had increased his strength. The horse, the bullock, and other animals, were reclaimed from the forest; some for social assistance, and others for a less precarious supply of food; while the shaggy tenants of the forest, which were hostile to his plans, began every where to give way; prowling only by night, and skulking by day in such deep recesses as might best secure them from the formidable association which had taken place.

But still his native forest was man's delight. Here, in some opening surrounded with woods, the horde first settled. Here the first attempts of architecture were made; the krail was laid out by rule and line, and the first draughts of regular defence were imagined. Cæsar, with all his boasted conquests, found the Gauls, the Britons, and the Germans, scarce emerging from this state of barbarism. His Commentaries everywhere shew them to have been forest people, retreating before him into their fastnesses, and impeding his march by felling timber in his way. The Britons, he expressly tells us,* gave the name of a town to a part of a forest, which they had fortified with a rampart and a ditch.

But Cæsar saw the British town only in time of war. Strabo gives us a picture of one in time of peace. "Forests," says he, "were the only towns in use among them, which were formed by cutting down a large circle of wood, and erecting huts within it, and sheds for cattle."† The same author, afterwards describing a town of this kind, shews more exactly the mode of fortifying it. It was the practice, he tells us, to intermix and weave together the branches of thorny trees, and strengthen them with stakes.

As the arts of civilization increased, man began to feel that the forest could not afford him all the conveniences he wished. Wants multiplied upon him, which he could not indulge amidst its recesses. He chose fertile situations for tillage, the neighbourhood of rivers for mills and manufactures, and descended to the sea coast for commerce, which he extended to the most distant parts:

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* Oppidum Britanni vocant, quum sylvas impeditas vallo, atque fossâ munierunt. *De Bell. Gal.* lib. v.

† Lib. vii. p. 292, edit. Casaub.

> Thus genial intercourse and mutual aid
> Cheer'd what were else an universal shade,
> Call'd Nature from her ivy-mantled den,
> And soften'd human rock-work into men.

When man became thus refined, we leave him: when he relinquished the forest, we have no farther connection with him. His haunts and habits are no longer the object of conjecture: they become the subject of recorded history. To the sage historian, therefore, we now consign him, and return to the forest, which at this day, in most parts of the world where any forests remain, is left in possession of the brute creation.

Under the burning suns of Libya, in the forests of Zara and Bildulgerid, the lordly Lion reigns. He harbours, too, in the woods of India; but there he is an ignoble brute, compared with the lion of Africa. The African lion is a beast of unrivalled prowess—nothing appalls him. From his dark recesses in the forest, he sometimes eyes the numerous caravan, consisting of men, horses, and camels, marching slowly along the burning sands of Barca. He lashes his tail, collects his strength, and, bounding forward, though single, attacks the whole. He is received by a brigade of pointed spears, and soon overpowered; but, in the bravery of his soul, he dies without a wish to retreat.

Where can we find such a forest sketch as the following?—

> Under an oak, whose boughs were moss'd with age,
> And high top bald with dry antiquity,
> A wretched ragged man, o'ergrown with hair,
> Lay sleeping on his back: about his neck
> A green and gilded snake had wreathed itself,
> Who with her head, nimble in threats, approach'd
> The opening of his mouth; but suddenly,
> Seeing Orlando, it unlink'd itself,
> And, with indented glides, did slip away
> Into a bush; under which bush's shade
> A lioness, with udders all drawn dry,

Lay couching, head on ground, with cat-like watch,
When that the sleeping man should stir; for 'tis
The royal disposition of that beast,
To prey on nothing that does seem as dead:
This seen, Orlando did approach the man,
And found it was his brother, his elder brother.

Shakespeare's description is so far correct as regards the lion's habit of couching to watch his prey. Mr Barrow tells us, that this powerful animal seldom makes an open attack, but, like the rest of the cat kind, he lies in ambush to wait for an opportunity of springing at unawares on his prey. His indolence is said to be the best security which man or the other animals have against his attacks. Nothing but hunger will excite him to pursuit; but when roused, his vaunted magnanimity is no protection even for a sleeping foe. Nothing rouses the lion so much as a storm; and it seems, moreover, to inspire him with unwonted courage. Mr Burchell, the African traveller, thinks but meanly of the bravery of the royal beast. He tells us the following interesting anecdote of an encounter with a lion, the result of which would shew that his boldness of attack is certainly to be questioned.

"The day was exceedingly pleasant," says Mr Burchell, "and not a cloud was to be seen. For a mile or two we travelled along the banks of the river, which, in this part, abounded in tall mat rushes. The dogs seemed much to enjoy prowling about, and examining every bushy place, and at last met with some object among the rushes, which caused them to set up a most vehement and determined barking. We explored the spot with caution, as we suspected, from the peculiar tone of the bark, that it was, what it proved to be, lions. Having encouraged the dogs to drive them out, a task which they performed with great willingness, we had a full view of an enormous black-maned lion and a lioness. The latter was seen only for a minute, as she made her escape up the river, under concealment of the rushes; but the lion came steadily forward, and stood still to look at us. At this moment we felt our situation not free from danger, as the animal seemed preparing to spring upon us, and we were standing on the bank at the distance of only a few yards from him, most of us being on foot, and unarmed, without any visible possibility of escaping. I had given up my horse to the hunters, and was on foot myself; but there was no time for fear, and it was useless to attempt avoiding him. I stood well upon my guard, holding my pistols in my hand, with my finger upon the trigger, and those who had muskets kept themselves prepared in the same manner. But at this instant the dogs flew boldly in between us and the lion, and, surrounding him, kept him at bay by their violent and resolute barking. The courage of those faithful animals was most admirable; they advanced up to the side of the huge beast, and stood making the greatest clamour in his face, without the least appearance of fear. The lion, conscious of his strength, remained unmoved at their noisy attempts, and kept his head turned towards us. At one moment, the dogs, perceiving his eye thus engaged, had advanced close to his feet, and seemed as if they would actually seize hold of him, but they paid dearly for their imprudence, for, without discomposing the majestic and steady attitude in which he stood fixed, he merely moved his paw, and at the next instant I beheld two lying dead. In doing this he made so little exertion, that it was scarcely perceptible by what means they had been killed. Of the time which we had gained by the interference of the dogs, not a moment was lost; we fired upon him, one of the balls went through his side, just between the short ribs, and the blood immediately began to flow, but the animal still remained standing in the same position. We had now no doubt that he would spring upon us; every gun was instantly reloaded; but happily we were mistaken, and we were not sorry to see him move quietly away; though I had hoped, in a few minutes, to have been enabled to take hold of his paw without danger. This was considered to be a lion of the largest size, and seemed, as I measured him by comparison with the dogs, to be, though less bulky, as large as an ox. He was certainly as large in body, though lower in stature, and his copious mane gave him a truly formidable appearance. He was of that variety which the Hottentots and boors distinguished by the name of the black lion, on account of the blacker colour of the mane, and which is said to be always larger and more dangerous than the other, which they call the pale lion, (*vaal leeuw.*) Of the courage of a lion I have no very high opinion, but of his majestic air and movements, as exhibited by this animal, while at liberty in his native plains, I can bear testimony. Nothwithstanding the pain of a wound, of which he must soon afterwards have died, he moved slowly away with a stately and measured step."

In the forests of Malabar and Bengal, the Tiger roams. Of this animal there are various kinds; the largest and fiercest is called the royal tiger. Of all the savages of the forest he is the most active, the most insidious, and the most cruel.

We strongly suspect that the tiger is not one whit more cruel or more insidious than the lion, though he is unquestionably more active. In one thing only these two feline animals do most materially differ. The lion participates with the lioness in her cares of their young, whilst the male tiger deserts the female; and the female does not scruple to devour her own progeny, as the common house cat will sometimes do. Redi the naturalist gives us an anecdote illustrative of the savage nature of the tiger. "Among several curious foreign animals in the menageries was a female tiger, with a cub a few months old in the same cage. This kind mother, upon coming towards Florence, whether out of sport or fury I will not undertake to say, seizing the cub in her teeth, broke its leg, and severed it from the joint. When she perceived the limb thus separated from the body, she devoured it most voraciously, although there was abundance of flesh in the cage at the time." But with all this the animal does not lack natural affection. We have heard of women murdering their own children, yet we should not, on that account, be prepared to admit that human mothers were naturally of savage temper. Captain Williamson, in his *Oriental Field Sports*, mentions, that two tiger cubs were brought to him whilst stationed in the Rhamgar district of India. They had been found, with two others, by some country people, during the absence of the mother. Being put in a stable, they made a loud noise for several nights, till at length their complaints brought the tigress to their rescue, who replied to them with the most fearful howlings. The cubs were at last let loose, from the dread that their mother might be provoked to break in; and in the morning it was found that she had carried them off to the neighbouring jungle."

The forests of India are inhabited also by the gentle and inoffensive Elephant. This animal commonly marches in social bands. The traveller hears them at a distance, as they traverse the forest, marking their route by the crush and desolation of thickets and intervening woods. He listens without dismay, and even waits to be a spectator of the unwieldy procession as it moves along.

Mr Gilpin seems to have forgotten that the elephant is a native of Africa as well as of India. The animals of the two countries, however, have considerable distinctions. These chiefly consist in the form of the skull, that of the Indian elephant being somewhat pyramidal, whilst that of the African species is flatter and rounder. The ears of the Indian elephant, too, are much smaller than those of the African species; and the laminæ of the teeth are larger and less numerous in the African than in the Indian elephant. The picture given by Gilpin of the march of these animals through the forest, is wonderfully sublime. "In the course of the second day," says Mr Pringle, in his account of his residence on the eastern frontier of the Cape Colony, "as we pursued our route down the valley of the Koonah River, we became aware that a numerous troop of these gigantic animals had recently preceded us. Footprints of all dimensions, from eight to fifteen inches in diameter, were everywhere visible; and in the swampy spots on the banks of the river, it was evident that some of them had been luxuriously enjoying themselves by rolling their unwieldy bulks in the ooze and mud. But it was in the groves and jungles that they had left the most striking proofs of their recent presence and peculiar habits. In many places paths had been trodden through the midst of dense thorny forests, otherwise impenetrable. They appeared to have opened these paths with great judgment, always taking the best and shortest cut to the next open savanna or ford of the river; and in this way they were of the greatest use to us by pioneering our route through a most difficult and intricate country, never yet traversed by a wheeled carriage, and great part of it, indeed, inaccessible even on horseback, except for the aid of these powerful and sagacious animals. In such places, (as the Hottentots assured me,) the great bull elephants always march in the van, bursting through the jungle, as a bullock would through a field of hops, treading down the thorny brushwood, and breaking off with his proboscis the larger branches that obstruct his passage; the females and younger part of the herd follow in his wake in single file, and in this manner a path is cleared through the densest woods and forests, such as it would take the pioneers of an army no small labour to accomplish."

The Monkey inhabits the woods both of Africa and India; and, what is singular, where he chooses to take possession, he may be called the lord of the forest. The lion himself gives way, not being able to bear, as travellers report, the incessant tricking of that mischievous brute, whose agility prevents correction. But the human figure is of all others the object of his highest derision. If such a phenomenon appear in his domains, the whole society are called together by a whoop. From curiosity they proceed to insolence; chattering, grinning, and throwing down fruit, cones, withered sticks, or any thing their situation furnishes. Fire arms can scarce repress them. In some forests, where the ape, the baboon, and other larger species of this disgusting tribe inhabit, the traveller must be well guarded to pass in security.

Of all that tribe which so caricatures the human race in figure, action, and, we fear, in many instances, in disposition also, the orang-outang (*Simia satyrus* of Linnæus) is that which most nearly approaches man in his formation. The chief distinguishing differences consist in the great length of the arms of the orang-outang, and the shortness of the thighs. The thumb is also much smaller, and the palm of the hand larger and narrower than in man; the form of the feet, also, is very dissimilar, the toes being much longer, and the large toe placed at a greater distance from the others; the forehead is higher, the nose flat, and the eyes much sunk. Besides these, there are a number of very essential differences in the internal conformation, sufficiently proving the truth of Buffon's observation, that "the interval which separates the two species, is immense; the resemblance in figure and organization, and the movements of imitation which seem to result from these similarities, neither make him approach the nature of man, nor elevate him above that of brute." These are the animals which, having been seen by the ancients in Africa, gave rise to the fabled satyrs. Their strength is tremendous, and they will sometimes attack and kill the negroes, when they meet with them in the woods. A young male animal of this species was recently exhibited in Edinburgh.

We have been much amused by the sports of the monkeys in the Jardin des Plantes at Paris; but the whimsical effect of the unrestrained frolics of thousands of the smaller kinds, when in the full enjoyment of the freedom of their native woods, may be best guessed at from the description given us, by the author of *The Menageries*, of the gymnastics performed by three monkeys, belonging to a gentleman at Limehouse. These creatures "were let loose into an orchard, in which there were some high and spreading elms. Their gambols were the most diverting that could be imagined. They pursued each other to the top of the highest branch, where they sat fearlessly chattering, and in an instant they would throw themselves down, with unerring aim, some twenty feet, and, resting upon the bough which they had selected to leap at, would swing to and fro, with manifest delight." We knew a large monkey, which escaped from his chain, and was abroad in Morayshire for some eight or ten days. Wherever he appeared, he spread terror among the peasantry. A poor fisherman, on the banks of the Findhorn, was sitting with his wife and family at their frugal meal, when a hairy little man, as they in their ignorance conceived him to be, appeared on the window sill, and grinned, and chattered through the casement, what seemed to them to be most horrible incantations. Horror-struck, the poor people crowded together on their knees, on the floor, and began to exorcise him with prayers most vehemently, until some external cause of alarm made their persecutor vanish. The neighbours found the family half dead with fear, and could with difficulty extract from them the cause. "Oh, worthy neebours!" at last exclaimed the goodman, with a groan, "we hae seen the *Enemy* glowrin' at us through that vera wundow there. Lord keep us a'!" He next alarmed a little hamlet near the hills; appearing and disappearing to various individuals in a most mysterious manner; till, at last, a clown, with a few grains of more courage than the rest, loaded his gun, and put a sixpence into it, with the intention of stealing upon him, as he sat most mysteriously chattering on the top of a cairn of stones, and then shooting him with silver, which is known never to fail in finishing the imps of the Evil One. And lucky, indeed, was it for pug that he chanced, through whim, to abscond from that quarter; for, if he had not so disappeared, he might have died by the lead, if not by the silver. As it was, the bold peasant laid claim to the full glory of compelling this dreaded goblin to flee.

In South America, in the wide forests of Brazil and Paraguay, along the banks of the Amazon, the Cougar, a species of tiger, is the most formidable animal. Possessed of amphibious nature, he plunges into the river, and carries his devastations beyond that mighty stream. Buffon relates, that he has been known to cross the sea, in large companies, between the continent and the island of Cayenne, and, in the infancy of that colony, to have kept it in constant alarms.

This is the *Felix concolor* of Linnæus, by some called the *Puma*, or American lion; but it has not the least affinity to the king of beasts. Its head is small; it has no mane; its length, from nose to tail, is five feet three inches; and the tail is two feet long. The prominent colour is a lively red, mixed with black, especially on the back, where it is darkest. Its chin, throat, and all the inferior parts of its body, are whitish. Its legs are long; claws white; and the outer claw of the fore feet much longer than the others. This animal has all the fierceness ascribed to it by Mr Gilpin; but, in the more northern parts of America, a very singular effect is produced on its courage, which is literally so *cooled* down by the severity of the climate, that, although all that Mr Gilpin says of it is true, where it is an inhabitant of warmer regions, yet, in the frozen parts of the western continent, it will actually fly from a dog, when in company with his master. It preys much upon the moose deer.

The strange sounds proceeding from a South American forest are admirably described by Mr Waterton: "He whose eye can distinguish the various beauties of uncultivated Nature, and whose ear is not shut to the wild sounds in the woods, will be delighted in passing up the river Demerara. Every now and then the maam, or tinamou, sends forth one long and plaintive whistle, from the depth of the forest, and then stops; whilst the yelping of the toucan, and the shrill voice of the bird called pi-pi-yo, is heard during the interval. The campanero never fails to attract the attention of the passenger. At a distance of nearly three miles, you may hear this snow white bird tolling, every four or five minutes, like the distant convent bell. From six till nine o'clock in the morning, the forests resound with the mingled cries and strains of the feathered race; after this, they gradually die away. From eleven till three, all Nature is hushed, as in a midnight silence, and scarce a note is heard, saving those of the campanero, and the pi-pi-yo. It is then that, oppressed by the solar heat, the birds retire to the thickest shade, and wait for the refreshing cool of evening. At sundown, the vampires, bats, and the goat-suckers, dart from their lonely retreat, and skim along the trees, on the river's bank. The different kinds of frogs almost stun the ear with their hoarse and hollow-sounding croaking; while the owls and goat-suckers lament and mourn all night long. About two hours before day-break, you will hear the red monkey moaning, as though in deep distress. The houtou, a solitary bird, and only found in the thickest recesses of the forest, distinctly articulates 'houtou, houtou,' in a low and plaintive tone, an hour before sunrise. The maam whistles about the same hour; the hanoquoi, pataca, and maroudi, announce his near approach to the eastern horizon; and the parrots and parrakeets confirm his arrival there."

In North America, the Moose Deer seems entitled to the appellation of lord of the forest; an animal represented by many travellers as high as an elephant, and of a nature as gentle. With stately tread he traverses the vast woods of fir, and crops the cones and pine tops, beyond the reach of any other animal. When the forest is covered with snow, and crusted over with frost, the wild American marks him for certain destruction. His feet sink deep in the faithless surface, and his flight is impeded; while his pursuers, mounted on snow-shoes, attack and retreat at pleasure, assailing him with shot or arrows on every side; and, when he falls, half a township is employed to drag him to their habitations, where the noble carcase is received in triumph, and at once suspends the effects of famine. If food be plentiful, he is hunted for his skin. But though his nature is gentle, like many other animals, he will turn upon his pursuer if he be wounded. He fights with his fore-feet. We have a story, well authenticated, of a hunter on whom a wounded moose deer turned. He was found in the woods, pounded into a jelly: his very bones were broken in pieces; and the deer, having exhausted his fury, was found lying dead beside him.

White, in his *Natural History of Selborne*, gives the following description of a moose deer:—"On Michaelmas day, 1768, I managed to get a sight of the female moose belonging to the Duke of Richmond, at Goodwood; but was greatly disappointed, when I arrived at the spot, to find that it died, after having appeared in a languishing way for some time, on the morning before. However, understanding that it was not stripped, I proceeded to examine this rare quadruped; I found it in an old greenhouse, slung under the belly and chin by ropes, and in a standing posture; but, though it had been dead for so short a time, it was in so putrid a state that the stench was hardly supportable. The grand distinction between this deer and any other species that I have ever met with, consisted in the strange length of its legs; on which it was tilted up much in the manner of the birds of the *grallæ* order. I measured it, as they do a horse, and found that, from the ground to the wither, it was just five feet four inches, which height answers exactly to sixteen hands, a growth that few horses arrive at: but then, with this length of legs, its neck was remarkably short, no more than twelve inches; so that, by straddling with one foot forward and the other backward, it grazed on the plain ground, with the greatest difficulty, between its legs: the ears were vast and lopping, and as long as the neck; the head was about twenty inches long, and ass-like; and had such a redundancy of upper lip as I never saw before, with huge nostrils. This lip, travellers say, is esteemed a dainty dish in North America. It is very reasonable to suppose, that this creature supports itself chiefly by browsing of trees, and by wading after water plants, towards which way of livelihood the length of legs and great lip must contribute much. I have read somewhere, that it delights in eating the *nymphæa*, or water lily. From the forefeet to the belly, behind the shoulder, it measured three feet and eight inches; the length of the legs before and behind consisted a great deal in the *tibia*, which was strangely long; but, in my haste to get out of the stench, I forgot to measure that joint exactly. Its scut seemed to be about an inch long; the colour was a grizzly black; the mane about four inches long, the fore-hoofs were upright and shapely, the hind flat and splayed. The spring before, it was only two years old, so that most probably it was not then come to its growth. What a vast tall beast must a full-grown stag be! I have been told some arrive at ten feet and a half!"

The woods of Germany nourish the Wild Boar, a beast by no means among the most ignoble of the forest. His form, the shape of his head, his short erect ears, his tusks, his thick muscular shoulders, adorned with bristles, and the lightness of his hind quarters, so contrary to the domestic hog, which is a round lump, are all highly picturesque. Such, also, are his colour, a grisly brown; and his coat, covered in many parts, as well as his shoulders, with long, sweeping bristles. Nor are his gait, attitude, and motion, at all inferior to his form. This beast, during the three first years of his life, herds with the litter among which he was produced. He is then called by foresters a beast of company. In his fourth year, he assumes the title of a wild boar—ranges the forest alone—becomes royal game,—and, at this day, furnishes the chief amusement of half the princes of the empire.

The tusks of the wild boar (*Sus aper* of Linnæus) are sometimes a foot long. Those of the upper jaw bend upwards in a circular form, and are exceedingly sharp at the points; those of the under jaw are the most fatal to those whom he may attack, for it is with them that he frequently rips up those whom his furious onset overthrows. While young they live together in families, and frequently unite their forces to defend themselves from the wolves, or other animals of prey. When likely to be attacked, they summon each other with loud and fierce notes, and the strongest of them forming themselves into a ring, with the weakest in the centre, they present so formidable a phalanx, that few wild beasts are so bold as to attack them. The hunting of the wild boar is calculated to awaken the most romantic associations. It has ever been the favourite amusement of potentates and princes of all ages, from the days of Adonis down to these more vulgar times. The pictures of sylvan scenery, which the very mention of the chase of the wild boar conjures up in the mind, are of themselves enough to give an interest to every thing connected with it. The dogs chiefly used for this purpose are of a slow and heavy kind, and when the animal is roused, he goes off at an apparently slow pace, which, however, enables him to make much greater way than appearances would lead a stranger to the sport to suspect. But every now and then he turns sulkily and savagely round on his pursuers, tarries till the hounds come up, and then offers to attack them. The wood meanwhile rings with the clamour, and the huntsmen pursue to endeavour to come up with the chase whilst he is at bay. Tired at last, the boar takes his stand, and the dogs getting around him, make many bold attempts to close with him, whilst every now and then some unlucky individual among them is tossed howling aside with his entrails laid open. The hunters, however, are thus afforded time to come up, and attack him with their spears; and to those who have not had the satisfaction of being present at the glorious and exciting death of the boar, we should recommend the examination of the spirited pictures of Snyders, or the glowing paintings of Rubens, of this subject. The African boar (*Sus Ethiopicus* of Linnæus) is, if possible, a more vicious animal, and he is extremely quick in his motions. The Africans consider him as dangerous as the lion. He has been known to rush like a thunderbolt against a horseman, and overthrowing horse and rider, to rip up both of them in an instant.

From the forests of the Pyrenees, when winter rages, the famished Wolves rush down in troops. All the country is in arms; and the utmost vigilance and force of men and dogs can scarce repress such a torrent of invasion.

The wolf (*Canis lupus* of Linnæus) is remarkable for possessing the power of bearing hunger for a long time, yet so ravenous do they become at last, that they are known sometimes to fill their stomachs with mud. As the shark, by some strange instinct, follows the sickly ship for the sake of the bodies which may be consigned to the deep, so do the wolves press upon the rear of vast armies to benefit by the slaughter which they may produce. When urged by ravening want, whole droves of them join in the dreadful work of destruction, and the horrors of winter are fearfully aggravated by the devastations which they commit; houses, and even villages, are scarcely a protection to the domestic animals, and even man frequently becomes their prey. Nothing can be conceived capable of adding more terror to the desert and wintry forest scene, than the figure of the bewildered traveller, listening with sinking heart to the howling of the famished wolves, and about to climb some ice-glazed oak, as his last hope, to protract for a while the period of his certain destruction.

By wintry famine roused, from all the tract
Of horrid mountains, which the shining Alps,
And wavy Apennine, and Pyrenees,
Branch out stupendous into distant lands,
Cruel as death, and hungry as the grave!

Burning for blood! bony, and gaunt, and grim!
Assembling wolves in raging troops descend,
And, pouring o'er the country, bear along,
Keen as the north wind sweeps the glassy snow,—
All is their prize. They fasten on the steed,
Press him to earth, and pierce his mighty heart.
Nor can the bull his awful front defend,
Or shake the murdering savages away.
Rapacious, at the mother's throat they fly,
And tear the screaming infant from her breast.
The godlike face of man avails him nought.
E'en beauty, force divine! at whose bright glance
The gen'rous lion stands in soften'd gaze,
Here bleeds, a hapless undistinguish'd prey.
But if, apprised of the severe attack,
The country be shut up, lured by the scent,
On churchyards drear (inhuman to relate!)
The disappointed prowlers fall, and dig
The shrowded body from the grave, o'er which,
Mix'd with foul shades and frighted ghosts, they howl.

As the poet describes, the horse with his rider is overpowered by these ravenous routes of savage and ruthless beasts. But horses in the wild state, or at pasture, are the only animals that can withstand them, and this they do by putting their heads together into the centre of a circle, and then defending themselves with their heels.

In the gloomy forests of Lapland, where the pine is covered with black moss, the hardy Rein Deer browzes. If he descend into the plain, his food differs only in hue. With these two kinds of moss, the black and the white, the whole face of Lapland is discoloured; and, when the diminutive native of the country sees the wastes around him abound with this semi-vegetable, he blesses his stars, and calls it luxury. His rein deer, supported by this cheerless pasturage, supplies him with every thing that Nature wants. It gives him food—it gives him milk—it gives him clothing—and carries him, wrapped in fur, and seated in his sledge, with amazing velocity, from one desert to another.

The *Cervus tarandus* of Linnæus is a native of the icy regions. There are two kinds of them, the wild and the tame, and of these the wild are by much the larger, stronger, and hardier animals. A breed is sometimes procured between these two, but they partake so much of the savage nature of their sires, that they frequently turn against their master, who is attempting to drive them in his sledge, and strike at him so furiously with their feet, that, if he did not creep beneath the shelter of the machine, he would infallibly be pounded to pieces. But the tame deer is indeed a most valuable animal. It will even trot a distance of sixty miles without stopping; but after such exertions, it is not uncommon for the master to kill it, in order to save it from the lingering death which its fatigue would produce. A rich Laplander sometimes possesses five hundred of these animals in one herd.

> The sons of Lapland; wisely they
> Despise th' insensate barbarous trade of war;
> They ask no more than simple Nature gives;
> They love their mountains, and enjoy their storms.
> No false desires, no pride-created wants,
> Disturb the peaceful current of their time;
> And through the restless ever-tortured maze
> Of pleasure or ambition bid it rage.
> Their rein deer form their riches; these their tents,
> Their robes, their beds, and all their homely wealth,
> Supply, their wholesome fare and cheerful cups.
> Obsequious at their call, the docile tribe
> Yield to the sled their necks, and whirl them swift
> O'er hill and dale, heap'd into one expanse
> Of marbled snow, as far as eye can sweep,
> With a blue crust of ice unbounded glazed.
> By dancing meteors then, that ceaseless shake
> A waving blaze refracted o'er the heavens,
> And vivid moons and stars that keener play
> With double lustre from the glossy waste,
> E'en in the depth of Polar night they find
> A wondrous day; enough to light the chase,
> Or guide their daring steps to Finland fairs.

Thus most of the forests of the earth became the possession of the brute creation. In the forests of Sumatra, we are told, that wild beasts, at this very day, depopulate whole villages.* In other savage countries, man and beast are still joint tenants; yet, in general, even the barbarian is taught, by example, to leave the forest for a more convenient abode.

The forests in Sumatra are of boundless extent, and are filled with wild animals. Among these the tiger grows to an enormous size and strength. Marsden mentions one which had been killed, which measured eighteen inches across the forehead. They can break the leg of a horse or a buffalo with their fore paw. Whole villages are indeed depopulated by them; yet so great is the superstitious prejudice of the natives, that it is with much difficulty they are prevailed on, by rewards offered by the East India Company, to use any methods for their extirpation. When they do set about it, they employ very ingenious traps for the purpose. Sometimes they use strong cages, with falling doors, into which they put a dog, or a goat, as a bait to entice the animal. Again they manage so that a large log of timber shall fall in a groove across his back. At other times he is noosed about the loins with rattans, or he is induced to ascend a plank nearly balanced, which turns when he is past the centre, and lanches him down from a height, upon sharp spiked stakes, prepared to receive him below. It sometimes has happened, that tigers have been caught by some of the former modes, which had many marks in the body of the partial success of this last expedient. Sometimes they shoot them, and at other times they place water poisoned with arsenic in their way. They are supposed to subsist chiefly on the monkeys and other animals with which the forests abound; hundreds of the inhabitants fall sacrifices to them, and the escapes which the poor people make are sometimes quite wonderful.

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* See Marsden's *History of Sumatra.*

SECTION XII.

But though man had deserted the forest as a dwelling, and had left it to be inhabited by beasts, it soon appeared that he had no intention of giving up his right of dominion over it. In a course of ages, as population increased, he began to find it in his way. In one part, it occupied grounds fit for his plough; in another, for the pasturage of his domestic cattle; and, in some parts, it afforded shelter for his enemies. He soon shewed the beasts they were only tenants at will. He began, amain, to lay about him with his axe. The forest groaned, and receded from its ancient bounds. It is amazing what ravages he made in his original habitation through every quarter of the globe. The fable was realized: man begged of the forest a handle to his hatchet; and, when he had obtained the boon, he used it in felling the whole.

In very early days, this devastation began. When Joshua divided the Land of Promise among the Israelites, the children of Joseph made complaint, that their lot was insufficient for their numbers: "Get thee up to the wood country," said Joshua, "and cut down for thyself there, in the land of the Perizzites: the mountain shall be thine; for it is a wood, and thou shalt cut it down; and the outgoings of it shall be thine."*

The mighty forest of Lebanon, which once found employment for eighty thousand hewers,† is now dwindled to a dozen trees. The woods which covered the island of Delos had entirely disappeared, even in the time of Herodotus. In all the new peopled parts of America, it was the sole employment of each colony to cut down wood; and it is astonishing what devastation the woods of these countries have suffered during these last two centuries. In the West Indies, the same havoc was made. In Barbadoes, which was once covered with wood, scarce a single tree can be found. All the other West India islands are, more or less, in the same condition. To prepare the ground for sugar canes, the axe has continued to rage in them ever since the time of their discovery.

In the East Indies, we see the same scenes of desolation. Wherever settlements have been made, the woods have been cut down; and, indeed, often unnecessarily. In the island of Sumatra, Mr Marsden tells us,‡ the inhabitants have no settled land for their tillage, but cut down, every year, a part of the ancient forests of the country, and meliorate the soil by the ashes of the trees which they burn upon it. "I could never," says he, "behold this devastation without a strong sentiment of regret. Perhaps the prejudices of a classical education taught me to respect those aged trees, as the habitations of an order of sylvan deities who were now deprived of existence. But, without having recourse to superstition, it is not difficult to account for such feelings at the sight of a venerable wood, old as the soil it stood on, and beautiful beyond what the pencil can describe, annihilated for the mere temporary use of the space it occupies."§

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* Joshua, xvii. 15.

† 1 Kings, v. 15.

‡ See Marsden's *History of Sumatra*.

§ Ibid.

In countries which are so generally covered with forests as Sumatra or North America, it is not wonderful to see it mercilessly destroyed by every possible means that human ingenuity can resort to. But we have seen this tendency to extirpation exerted even in the Alpine forests, where large patches are frequently burned down by the inhabitants, as heath would be on a hill side in Scotland, merely to increase the herbage and the value of the pasturage of the place where the trees grew. Uncouth black spots are thus frequently created in the middle of the dark green forests of the Swiss mountains, and the scenes of gloomy destruction which these exhibit when visited, with the huge trees standing half consumed, and stretching out their charred branches against the snowy peaks and the clear blue sky, beggars description.

In part, the devastation of timber has been owing, in some countries, to other causes. Among these, it is well known what prodigious quantities of drift timber are every year wrecked on the sea coast of Greenland, Iceland, Siberia, Kamskatka, and other northern regions, brought down, as is supposed, by the great rivers of Tartary and America, and thrown, by the setting of the currents, on those shores. In a voyage related by Purchas, we are told that the Obi and the Jenisca frequently, when the frosts break and the snows dissolve, overflow their banks, and carry down with them vast mountains of ice, which, rolling along through the forests, crush down all the trees they meet with, and will sometimes drive whole woods before them to the sea.*

On the coasts of Spain, and Portugal also, drift timber is frequently found. "At the siege of Gibraltar, on the night of the 26th of December, 1779," (says Captain Drinkwater, in his history of that siege,) "we had a most violent rain, with dreadful thunder and lightning. The succeeding morning a vast quantity of wood was floating under our walls. The rain had washed it from the banks of the Palmone and Guadaranque, and it was wafted by the wind over to our side of the bay. Fuel had long been a scarce article; this supply was therefore considered as a miraculous instance of Providence in our favour." In the East

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* Second Part, b. iii. ch. 7.

Indies, we have likewise accounts of the devastation of timber, from the same cause. This cause, however, operates only on the banks of large rivers, or near the coasts of the sea.

The American rivers exhibit more wonderful examples of this species of destruction than perhaps those of any other country. Their navigation is seriously hampered in many places, by the immense masses of logs which, adhering together, block up a portion of the breadth of the stream for many miles in length.

Mr Stuart, in his *Three Years in America*, notices the fatal effects of these depositions of drift logs in the American rivers. " The navigation of the Mississippi," says he, " is rendered dangerous by trunks of trees, which are called snags, planters, or sawyers. The trees are called snags and planters when they are firmly fixed in the bottom of the river perpendicularly, and appear a foot or less above the surface of the water. They are called sawyers when fixed less perpendicularly in the river, yielding to the pressure of the current in some degree like the motion of a saw-mill saw; from which their name is derived. They are called sleeping sawyers when the top of the tree does not quite reach the surface of the water. There are also in the Mississippi many wooden islands, more dangerous than real ones, from there being a new or additional obstacle thrown in the way of the current. They consist of large quantities of drift wood arrested and matted together in different parts of the river. Many fatal accidents occur from boats running against planters and sawyers."

Mr Flint has given a striking description of the disastrous fate, a few years ago, from this cause, of the steamboat Tenessee. " It was a beautiful morning when she started. Her deck was absolutely crowded with passengers,—not less, I was told, than three hundred being on board. They cheered the multitude, waving their hats, fired their swivel repeatedly, and went off with unusual demonstrations of gaiety. Above Natchez, in a dark and sleety night, and in one of the furious cypress bends of the river, the boat struck a snag. She began to fill, and every thing was consternation and despair. One wretch seized a skiff, and paddled round the boat, calling on a passenger to throw his saddle bags into the skiff, informing him, with great agony, that all his money was in them. He might have saved a dozen persons, but he kept so far aloof that no one could get on board. We sometimes see, in the very same crisis, that one man will exhibit the dignity and benevolence of an angelic nature, and another will display the workings of a nature almost infernal. The engineer, who was greatly beloved, was invited to save himself in the yawl. His reply was noble: 'Who will work the engine if I quit? I must do my duty.' They tried in vain to run her on a bar. She sank; and this intrepid man, worthy of a statue, was drowned in the steam room. The passengers — men, women, and children — separated, and in the darkness, were plunged in this whirling and terrible stream. The shrieks, the wailings, soon died away. I believe it was not ascertained how many perished; but the number was known to exceed thirty persons. The rest made the shore as they could."

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* See Crantz's *History of Greenland*, i. p. 37. Evelin's *Travels through Siberia*, ii. p. 415. Millar's *Collection of Russian Transactions*, viii. 67. Drinkwater's *Siege of Gibraltar*, p. 80.

Mr Stuart tells us, that the American government have taken very decided measures for clearing the navigation. "We passed a new double steamboat," says he, "employed in removing the obstructions to the navigation of the Mississippi and the Ohio. The control of all the commercial concerns of the United States being reserved by the constitution to the General Congress, the legislature has, since the introduction of the steamboats, been employed in devising measures to remove the obstructions occasioned by the sawyers and planters in the western rivers, and has granted funds for that purpose to the amount of two hundred or three hundred thousand dollars. The boat which we passed is the invention of Captain Shreve, one of the oldest navigators of the Mississippi, and has cost between twenty-six and twenty-seven thousand dollars. It is a double steamboat, united at the bows by an immense beam. The whole weight and power of the boat and engine are made to operate by the use of this cross beam, as a lever, upon the sawyers and planters, and they are forced from their position, or broken off near the bed of the river, with great ease and rapidity. This boat has already rendered safe some of the worst channels of the Mississippi; and some of the most dangerous passes of that river present now only smooth sheets of water. The loss to the commerce of the western states, occasioned by the sawyers and planters, has been estimated at ten per cent. It is calculated that three of these double steamboats called snag-boats, will be calculated to remove all the obstructions annually forming by the falling trees, besides deepening the channel of the Mississippi over the bar at its mouth."

We observed, in a recent publication, that some spirited and ingenious individual has been making attempts to remove some of the wooden islands from the St Lawrence, and with considerable success. We can easily conceive that an accumulation of even a mile or more in length may form upon a comparatively small number of these snags or planters, and that the simple removal of these main stays may be the means of allowing the whole island to drift off, either bodily or in detail.

But though in all countries woods have been dismantled, yet this devastation of timber hath raged with the greatest ardour in Europe. France is almost entirely deprived of wood. All timber, of such a size, belonged to the king. The consequence was, nobody would suffer trees to attain that size. In the internal parts of Spain and Germany some woody tracts still remain; but the grandeur of those ancient forests which Hannibal and Cæsar traversed, is nowhere to be found. Where shall we now hear of a forest that took a period of sixty days to pass through it?* But if some woody scenery is still found in the internal parts of these countries, yet along the coasts, from the Baltic to the Rhine, and from the Rhine to the Straits of Gibraltar, all is laid waste.

In Italy, too, the same havoc has been made. In Calabria, indeed, are still some tracts of wood; but I believe in few other parts. Those vast pine forests which had rooted themselves, from the beginning of time, on the ridges of the Apennines, are now, in most parts of that chain of mountains, recorded only by a few scattered clumps.

Even the bleak clime of Iceland is supposed to have been once covered with large forests, though it is now almost totally bare of wood. It is probable, however, that other causes besides that of making room for tillage, of which there is but little in that island, have contributed to this event.†

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* Hercynia sylva dierum sexaginta iter occupans.
Pompon. Mela, lib. iii. c. 3.

† See Troil's *Letters on Iceland*, p. 41, &c.

From these varied scenes of devastation the Turkish dominions, I believe, are the most exempted. The Turks venerate trees, and cherish them in all places where the soil is not absolutely required. They may almost be said to live under them, for they are continually reclining beneath their shade. In Turkey it is common to see inferior buildings raised around the bole of a large plantain, which, rising through the roof, covers the whole with its expanded boughs. We may suppose, therefore, what we sometimes hear is true, that some of the most picturesque scenery in the world may be found among the islands of the Ægean, and along the shores of the Dardanelles, many of which are beautifully covered with wood. These woods account, probably, for an appearance which is singular to a stranger navigating those narrow seas. As the corn vessels sail through them, in their way to Constantinople, innumerable flights of pigeons, which find shelter in these woody recesses, hover round the boats, demanding a sort of toll from each, which the Turks never fail to pay them. These domestic birds acquire the sagacity to distinguish the corn boat from every other species of navigation; and settling upon its deck, they eat their dole at perfect ease. As the vessel approaches Constantinople, the tame pigeons of that capital and all its suburbs, scruple not, if they choose it, to take the same liberty. Doves of every kind are sacred in Turkey.

END OF VOLUME I.

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